ABSTRACT OF

The Cavendish Lecture

ON

DISEASES OF THE ASCENDING AORTA.

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GENTLEMEN,—In a little tract of the brain, one so small that an infant might grasp it, lies the engine of all that makes life worth living; and but a few inches below it, where brain and spine unite, is a still smaller tract where lies the knot of life itself. The upper tract has its times of energy and of repose, by sleep its ravelled sleave is knitted up; but the knot of life itself knows no pause, no quiescence; let its vigilance be at fault for a few seconds and the busy frame it governs will drop into silence. Save as a lesson in physiology these are strange parts to us; yet there is another unsleeping minister of life, our familiar, of whose pulses Harvey was rapt into saying that they "are of the spirit of the blood acting superiorly to the powers of the elements ..... and that the soul in this spirit and blood is identical with the essence of the stars." When the pulses of this instrument beat in harmony we feel within us that all is well; when they are jangled and out of tune we are dismayed. Often when in the still night I hear as I lie the calm and continual rhythm of my familiar spirit ever winnowing boon from bane, I am lost in wonder at the long procession of these notes of human time, at this perpetual beat of the manifold tides of life. As I listen to its notes they seem to fall into the burden—

> "So schaff' ich am sausenden Webstuhl der Zeit,
> Und wirke der Gottheit lebendiges Kleid."

Sixty times a minute at least, 3600 times an hour, 86,400 times per day, for us heedful and heedless, does this shuttle of life throb to and fro; for us in tireless periods this pendulum of man's gravitation tells the seconds which can never return. Tireless as it seems, tireless and everlasting, yet it will cease; nay, when youth is past in every beat there may be an irreparable wound. Hour after hour the blood leaps against the vault of its conduit, straining the bonds of it, searching its strength, testing its elasticity. Nevertheless, the endurance of the arch of the aorta under the incessant lashing of the blood for three-quarters of a century is astonishing in some old persons in whom a constant immunity from toxic influences has coincided with some inherited tenacity of structure. I remember well, at the necropsy of a patient who had died from a gall-stone at the age of 83 years, how we admired the soundness of the heart, the translucency of its valves, and the uniformity and smoothness of the aorta and its lining. But for the most part it is otherwise, often far otherwise; we expect to find in the aorta of persons after the age of 50 years, and usually we do find, no inconspicuous signs of these years of stress. And, again, as we should expect, it is in the arch of the aorta more than in any other arterial tract that these signs of injury prevail; and prevail more densely and widely in persons whose lives had been spent in strenuous muscular labour.

Such being the conditions under which the work of heart and aorta is performed, the stress upon the first or curved portion of the great vessel being thus heavy and perpetual, while we admire its tenacity we shall presume that whatever the injurious influences to which it may be obnoxious, stress must enter for more or for less into the sum of the lesions, and into the election of their seat or seats of greatest severity. Let me suggest to you a common case: the heart and aorta of a man of some 50 years of age who has taken freely of drink and suffered from syphilis, lie before us. [Professor Clifford Allbutt here described the appearances seen at the post-mortem examination in such a case]. In the case I have described I have spoken of the luetic poison; this, however, is but one poison out of many by which the integrity of the arch of the aorta may be imperilled. It is ascertained that the aorta enjoys no complete immunity from the attacks of the ubiquitous bacterium, although of the kinds and degrees of its liability we are still in much ignorance. After some search I have failed to discover any systematic examination of the atheromatous aorta in respect of secondary infections. More than once I have proposed the subject to a candidate for our higher degrees, but hitherto no work of the kind has been sent in. We may anticipate that the self-purifying virtues of the blood and the scour of the aortic stream give the aorta considerable advantages against microbic invasion; and that, if infection of it occur, it will occur under conditions of high blood impurity and high microbic virulence. A circulating poison, whether inorganic such as lead, evil humour such as gout, or virus such as that of syphilis, apt to enter into chemical relations with the wall of the vessel would seem to be fraught with a greater peril to it than the microbe which would be chased along swifter currents to settle in regions of sluggish irrigation.

Disease of the aorta has not only a certain independence of disease of the heart, but also of the aortic valve itself. When we speak of diseases of the "aortic area" we mean, no doubt, something wider than the arch of the aorta; we include the mouths of the coronary arteries, the valve, the base of the heart, and the large anterior limb of the mitral valve, the smaller limb being related rather to the auricular side of the heart. We observe that the larger mitral limb is often associated in disease with the aortic valve, whereby it comes about that mitral disease may follow aortic disease; nevertheless, when we consider the aortic area within itself we shall see that disease of the base of the aorta may not invade the valve, or involves it gradually and secondarily, and from above. Clinically, moreover, disease of the arch of the aorta forms a chapter apart from that of the heart, as we shall presently see more at length. I will begin with acute aortitis.

Acute aortitis is not always the perilous disease we are disposed to assume it to be. It is one of my purposes to-night to emphasise the duty of careful heed to the state of the vessel in diseases wherein aortitis may enter and depart unawares. That acute aortitis is apt to arise in the course of infectious diseases, even in the course of the milder exanthems, rests upon a collection of facts now large enough to carry conviction. Curiosities in this kind now appear to be no accidents but integral, if not common, terms of our series, terms which range in significance from transient disorders to terrible and even mortal calamities. Acute aortitis, as well as atheroma, was not unknown to the immortal Morgagni; and nearer our own time, Hodgson, in his remarkable Jacksonian essay of 1814, to which I shall refer again, observed acute aortitis, carefully distinguished the signs of inflammation from those of inhibition, and described a remarkable case of it in which a fibrincus deposit lay upon the inner face of the great vessel and was continued into a thrombus of one of the carotid arteries, a case presumably of bacterial infection. Of acute aortitis as a function of microbes, known or assumed, in the infections, my own experience is narrow and occasional; but that such an effect occurs is beyond reasonable doubt. If we may trust the records of clinical observers of repute, acute aortitis is more frequent in the exanthems than we are wont to suppose. The affection is often mild in degree, transient in time, and so secret in its approaches that for the most part it is revealed only to him who is on the watch for it. Physicians in charge of small-pox, if they will use the means of diagnosis to be discussed hereafter, may detect the lesion not infrequently; so it would appear from the reports of Thérèse, who records six cases, and of other physicians. Brouardel also gives the sanction of his authority to variolous aortitis, and tells us that it arises during the suppurative period and disappears during convalescence. In some cases it seems to determine a fatal issue, but as it usually appears in hæmorrhagic cases, or cases otherwise of gravity, the effects of the aortitis cannot often be estimated precisely. In favourable cases of variolous aortitis all evidences disappear in a few weeks.

[The lecturer here discussed the various infections which may give rise to aortitis—measles, scarlet fever, acute rheumatism, various septic infections, typhoid fever, diphtheria, influenza, malaria, tubercle, and syphilis. He continued:]

That in some cases of aortitis we have to deal with mixed infections is probable; but we have little definite information on this point. Of acute aortitis as a result of lead or other mineral or vegetable poisons I have no notes; nor can

I profitably discuss some obscure cases in which muscular stress may have set up a primary aortitis in a vessel otherwise sound. That such stresses do much to coöperate with more insidious causes of aortitis—acute or chronic—I have said already, but I can call to mind only one case in which mechanical stress seemed clearly to have originated the mischief. The patient was a young housemaid who, on lifting a heavy weight—one beyond her strength—felt a sudden pain and distress in the chest, from which she made no recovery. She came several times into the Addenbrooke's Hospital and was once in St. Thomas's, when Dr. Hawkins very kindly sent me news of her. The signs and symptoms were those of acute aortitis, subsequently becoming chronic and invading the aortic valve so as to cause stenosis. Her crippled state and the anginous pains which continually beset her preyed upon her spirits and after a while engendered, not unnaturally, a fretful and wayward disposition; but on the main facts of the organic lesion we were all agreed.

On the experimental side of the subject definite results are difficult to attain; experiment on the generation of aortitis by bacterial agency is obviously intricate and in its results equivocal. Nevertheless some instructive work has been done. The pneumococcus, the bacillus coli, Eberth's bacillus and other organisms have been inoculated upon the aorta in animals with no inconsiderable success; a success now sufficient to indicate to us that such microbes are capable of engendering acute aortitis if circumstances be favourable to their implantation. The case of the horse poisoned by diphtheritic toxin seems to prove, moreover, that toxins of bacterial origin may suffice to produce this inflammation in the absence of the microbe itself. I have already suggested that it may be more easy for toxins than for bacteria to fasten upon the aorta.

As we pass from acute to chronic aortitis we pass from obscurity and incertitude into a field of knowledge on which I cannot pretend to lecture such an audience as this. On the other hand, disease of the ascending aorta, as distinguished from diffuse atheroma or arterio-sclerosis, receives less attention than is due to it; it may occur alone or nearly alone, and if its symptoms are often ambiguous or equivocal it is quite capable of compassing the patient's death, so that we shall do well to suspect it and to interrogate the signs of it more warily. On two recent occasions I ventured, and ventured with justice, as is proved, to persist in a diagnosis of atheroma of the ascending aorta against the judgment of colleagues who did not so much deny as ignore its existence. Disease of the ascending aorta without aneurysm is far more common in middle life, in early life and even in youthful life, than we are wont to realise; and is for the most part insidious. Of the signs and symptoms by which it is to be known I shall speak presently; when the patches are small and few the evidence, if any, may be wholly indirect. The name atheroma is conveniently restricted to the decaying—the necrotic—phases of inflammatory or reparatory processes indicated by the name aortitis. When inflammation or, in the particular case, repair, is predominant, we speak of the process as aortitis; when degeneration prevails we speak of it as atheroma. Again, I would urge that in the course of chronic aortitis and atheroma—as in the course, perhaps, of all chronic maladies—tides of acute activity may, and often do, take place; and thus the uniform course of the patient's symptoms is disturbed by vacillations, exacerbations, or even notable alterations of character. Thus symptoms of angina pectoris may quickly manifest themselves in a patient in whom the physician had recognised at worst a more gradual and a less dreadful mode of decline.

On the causes of chronic aortitis and atheroma of the ascending aorta I will be reticent, almost silent; this chapter has been too pompously written already for my competition. With my tardy footsteps I pant in vain after the assurance of those preceptors who have carved their way into nosological systems with the double-edged weapons of words. To the great French school our debt is incalculable and we shall tolerate in them *les défauts de leurs qualités*; if their systems seem to us a little crazy, their "tabagisms" and their "herpetisms" a little chimerical, their egregious vocables a little pedantic, we will put down our insensibility to our insular spleen. I will not trot out even my own jade—arterial hyperpiesis—very far; for we are all agreed that the higher the blood pressure the more the arch of the aorta will suffer, and that the aorta and the first portion of the ascending limb of the arch are the first and chief seat of atheroma because they bear the first and chief brunt of the cardiac systole. Perhaps in every case of static hypertrophy of the heart the aorta undergoes some atheroma. The vessel suffers from the impact geometrically more and more as the blood pressure rises, and as the vessel itself, with the advance of age, loses its resilience. If resilience fail, normal and indeed subnormal blood pressures become relatively excessive; expansion becomes thumping, the machine is self-strained and, as this and that part of the vessel yield unequally, stresses become unequal. Again, as a pipe becomes more rigid its movement is more abrupt; especially at a bend such as the aortic arch, which at each beat is hammered tangentially forward as a whole. Dilatation in such a state of the vessel brings some compensation with it in the reduction of velocity. Yet, how damaging the heavy pulses often are we may read in the immunity of the arch when it is protected by aortic stenosis of the so-called pure kind—the kind in which a big heart and a cartilaginous aortic ring exist without disease above or below the ring; in these cases the aorta even in old age is often neither degraded nor deformed. Where, as in Hodgson's disease, the heart is powerful, the aortic orifice open, and the vessel itself depraved, we see degradation and deformation carried to the extreme verge of survival.

Aneurysm of the aorta is so large and pre-eminent a part of aortic disease that I must omit it from this slight address; but I cannot omit altogether those aneurysms, too small for direct observation, which are apt to form about the root of the vessel and are usually due to aortitis. In this area recesses of various sorts are commonly found after death, especially in or near the sinuses of Valsalva; some of these are too shallow to contain clot, others retain clots of nominal substance, other pouches again are narrow-mouthed and aneurysmal in the saccular sense and tend to rupture into the pericardium or to compress the base of the heart. These aneurysms, not to be detected during life, unless it be by the x rays, occasionally give rise to signs of aortic disease and to symptoms of angina pectoris. Moreover, like gumma and other lesions of this part they are apt to retard the pulse-rate, a phenomenon not altogether dependent upon interference with the coronary circulation, on which vital matter I cannot touch in this lecture. Sir William Gairdner in his well-known article in Reynolds's "System" laid great emphasis upon both these features of "irregularity of the aorta in its ascending portion." Of other elements in the causation of chronic aortitis I may touch so far upon gout as to say that chemical research fails to discover urate of soda in the aorta of gouty bodies, and that experimental injections of uric acid have no effect upon the aorta; therefore to attribute the disease to silting up of the vasa vasis by uratic crystals must share the fate of many another ingenious suggestion. Concerning the poison of lead I may say, not from my own experience only, that in such cases aortic disease may occur without renal disease.

Time will not permit me to trouble you with the histology of aortitis or atheroma, nor indeed is it needful; by the aid of many observers, French, German, English, and American, the subject has been minutely investigated and is fairly well known. The gelatinous patch is characteristic of acute aortitis, as for example in infectious varieties. Gelatinous patches in the neighbourhood of atheroma indicate acute phases in the course of a chronic process.

All diseases of the aorta, if they pass into chronic states, tend to atheroma. Syphilitic arteritis, if occasionally to be recognised in its earliest manifestations, becomes ultimately atheromatous, but leads even more decidedly largely to altered diameter, bossing, scarring, wrinkling and puckering of the vessel. Perhaps a considerable degree of cell infiltration in both intima and adventitia, with some increasing degeneration of the media, may properly suggest a syphilitic process. There is a good picture of the process in Letulle.[1] The age of the patient may also be significant. A rarely recorded but definite kind of syphilitic aortitis is a quite distinct mesarteritis favouring the occurrence of aneurysm. The coronary arteries, or at any rate their orifices, rarely escape in atheroma of the ascending aorta; yet if the process be slow complete obliteration of these orifices is consistent with a thoroughly sound and powerful heart muscle; one which may make up by increased velocity for the narrowest constriction of the aortic orifice. Osler has added his testimony to the doctrine that atheroma and arterio-sclerosis may arise, and progress to extremes, without interstitial nephritis. Of the symptoms some are, as I have said,

[1] Vol. i., p. 156.

equivocal, and of these are headache—of various meaning, no doubt—vertigo and dyspnœa of a kind. Of the cause of the vertigo, an early symptom which is often notable and even alarming, I must be content with the vague surmise of a reflex mechanism. Concerning the dyspnœa, which is to be discriminated from that due directly to heart or lung affection, or to pressure effects, I can only offer the same surmise. It comes independently of the pain, of which I shall presently speak, and in its mode and caprice nearly resembles spasmodic asthma; but it is without the critical relief by expectoration, without the spirals of Curschmann, and, I presume, without the "eosinophilia." It is a tight and retarded breathing, independent of exertion; not the panting of a dilated heart. These three symptoms are significant of acuter phases of aortitis. Pressure symptoms are more common in mere dilatation of the arch than is usually supposed and by no means dictate aneurysm or other tumour. In the later stages of Hodgson's disease pressure symptoms are usually perceptible and in some cases are predominant. Among such symptoms I have witnessed spasmodic closure of the glottis, in attacks so persistent and terrific as to call for chloroform or even for tracheotomy; minor degrees of distension of some branches of the upper vena cava; and even pressure upon a bronchus, though this last in mere dilatation is rarely perceptible. Here it is convenient to allude, for I can do no more, to acute pulmonary œdema, which is said to occur in disease of the aorta. It may be fulminating after its fashion under other obscure conditions, but more often it appears in moderate degrees which, if perilous, may be transient. A sudden distress leads to examination of the back of the chest, where a larger or smaller gathering of crepitations is discernible for a few hours or for a day or two, then gradually disappears. I have never witnessed this event in aortic disease as distinguished from general arteriosclerosis and I am not convinced of its occurrence apart from the latter condition. I may remark, by the way, that emphysema of the lungs is a well-known accompaniment of atheroma of the aorta and may even take some place among its characteristic symptoms.

That pain, and pain having peculiar and even appalling features, arises in disease of the aortic area—that is, of the first portion of the ascending aorta and perhaps of the aortic orifice—is in a sense well known; in another sense, however, it is misconceived. Such is the glamour of great names, such is the tenacity of a habit of thought; such, again, is the sapping effect of fixed doctrine upon simplicity of thought, that in the examination of cases of angina pectoris our eyes are too exclusively fixed upon the coronary arteries; the orifices and the tunics of these vessels are scanned for atheroma and if atheroma be found—in chronic disease of this area they hardly escape—the pain is held to be explained and no fresh thought is given to the matter. Yet the truth is that this pain, which in greater or less degree is a predominant feature in disease of this area, is due neither to coronary artery nor to heart, but to the disease of the base of the aorta, with which coronary atheroma is commonly associated. Now aortitis of the ascending arch, even when acute, is often unattended with pain; in the aortitis of the exanthemata pain is frequently, in some of them generally, absent. In the aortitis of small-pox or of typhoid fever we detect the evil, not by pain, but by physical signs. In the aortitis of influenza, of rheumatism, of syphilis, pain occurs, but probably in a small minority of cases. In atheroma of the area again pain occurs in a small—a very small—minority of cases. There is then no direct relation between the cause, the acuteness, or the range of aortitis and severity of pain; the intensity of the pain in certain cases must be explicable by some other element, by some yet narrower precision of the seat of disease, of the depth of its penetration, or possibly of its pressure on some adjacent organ or tissue. We may guess that the relation of the fibrous to the nervous tissues of and about the ascending aorta may be the determining factor of pain in inflammation, acute or chronic, of these parts. Suffice it now to repeat that pain, and pain having peculiar and even appalling features, arises in disease of the root of the aorta. The features are: origin under the sternum at the junction of the first and second thirds of the bone and sense of constriction or compression, as if the chest were in a vice or the breast-bone crushed inwards by an iron bar; I speak, of course, of the patient's subjective sensations. This pain may come in any degree, from a momentary sense of tightness about the upper sternum, aroused by exertion and stopped at once by rest, to sheer torture. A third feature is a tendency to radiate from the mid-sternal origin into sections of the brachial plexus, in the first instance of the left side, but occasionally of the right also—very rarely of the right alone; and not of the brachial plexus only but in keener cases along the intercostal nerves of the left side also. I am accustomed to divide the courses of this aortic pain by the terms I apply to spreading zones of other pains, spasms, and perturbations—namely, into the primitive area and the forced areas, the primitive area being that of simple reference, the forced areas being those of compound reference which are invaded successively as the irritation or the instability of the system increases. As in a child a cutting tooth may have a primitive area of pain in the parts about it and thence may force sphere after sphere of inhibition, to vomiting and even to general convulsions, so a corrosive action at the root of the aorta may cause a constricting pain under the sternum only or, forcing successive spheres of inhibition may drive it to the shoulder, to the inner condyle of the humerus, to the ring and little finger, and yet again to the third, the fifth and other intercostal zones. When the pain reaches these outermost circles we are too apt to attribute its origin to the heart.

Of a particular kind of dyspnœa in the primitive reflex zone of aortitis I have already spoken; in angina pectoris a dyspnœa may arise, but if infrequently this feature occurs it is not characteristic, usually the patient is held in a deathly stillness. When dyspnœa accompanies angina pectoris either the heart is diseased also or it is gravely oppressed by the effects of the pain as it violates yet another sphere of inhibition, that, namely, of the heart itself. As irritation of the central end of a divided sciatic nerve in an animal, as the torture of a gall-stone driven through the duct in man, forcing the inhibition of the heart, may slow auricle and ventricle, or even arrest them in death, so the pain of a diseased aorta—angina pectoris—having invaded the outer and inner bailey, may force the very keep of life and may arrest the heart in fatal syncope. Herein lies the perilousness of aortic pain to him whose heart is frail—to him, let us say, whose coronary arteries are occluded, which, by the way, is far from being a necessary consequence—and whose cardiac muscle is in decay. To one thus unstable at the centre angina pectoris is often a mortal agony; to one whose heart is sound and perfect, or relatively sound and perfect, the agony is rarely mortal. Leger tells us indeed that in acute aortitis, as in other agonising visceral pains, even a sound heart may be arrested in death. Perhaps if the heart be frail the vagus steps in sooner to protect it, perhaps it is forced more blindly into excessive function as we now know is the case in death under chloroform. In the two instances the causes differ but the mechanism of death is identical, and artificial respiration should be tried in angina if occasion serve. As a prophylactic bromide of ethyl might be useful, as suggested by Waller in the administration of chloroform.

In not a few cases, however, the heart does not quail and the sense and apprehension of death are less frequent, less terrible, or often indeed absent. Elderly patients, the subjects of angina pectoris, do indeed die suddenly from cardiac failure, in an attack as it is said, often in an anginal attack no doubt, but not rarely the perishing organ stops, as we say, of itself. Some stir of flatulence, some nervous hitch, such as that which makes us twitch or bound in our sleep, and the worn-out heart answers to time no more. Such a death is apt to occur likewise in the case of aortic insufficiency in a heart whose muscle may not be gravely unsound. That the apprehension of death is not due to mere cerebral anæmia, but to some secret omen within the cardiac mechanism, seems proved by the experience of the patients of "Stokes-Adams disease," in whom the approach of insensibility and convulsion is a moment, as I have been told by one of them, of no unpleasant lethargy.

When a chronic aortitis, pursuing for the greater part a painless course, is broken by terms of acuter activity, angina pectoris may come and go with such vicissitudes. In a gentleman, aged 53 years, whom I see occasionally with Dr. E. Lloyd Jones for a chronic aortitis, a period of acuter disease set in at one time with frequent attacks of angina pectoris of the classical kind. By appropriate means this acuter phase was terminated and the angina disappeared. This gentleman is able for the present to walk quietly up hills and stairs and to attend to the duties of a large and exacting business

I have seen not a few such cases of intercurrent angina, even in acuter phases of chronic disease, which departed for good. In acute aortitis its departure is perhaps the rule, the condition being that the heart is sound.

Of physical signs in aortitis there is no great lack if we will but look for them; unfortunately they are for the most part signs of the fully established disease, of chronic aortitis and atheroma. The earliest stage of this disease is rarely diagnosed—never, perhaps, with certainty except in its acutest modes. It is understood that in this address I confine myself to disease of the ascending arch, without aneurysm, without notable cardiac disease, and without regard to general arterio-sclerosis.

To sight and touch acute aortitis scarcely betrays itself; some throbbing in the neck—if such there be—may well be due to some far less grievous causes. In chronic aortitis we have more of this kind of evidence. Even in the aspect of persons between 25 and 40 years of age some quality of deterioration is to be noted; especially if, as is frequent in such patients, syphilis lie at the root of the disease. At all ages, then, signs of premature senility are prone to appear; in some persons the face is pinched, worn, and perhaps furrowed by the anxieties of pain or other disablement, and the complexion, whether the case be syphilitic or not, is white or sallow, and the hair is thin and grey. In other persons, stout elderly men of full habit, long subject to high arterial pressures, the rubicund face takes a venous hue, and under its rather deceitful surface a bilious tint is to be noted, especially about the temples and cheek-bones. On closer approach the veins of the neck may appear too prominent, and may even pulsate. The superficial veins about the face, the neck, and the chest may be dilated and the neck and the face may be puffy. Arterial pulsation also may be conspicuous in the same region, although aortic insufficiency, Graves's disease, and chlorosis be out of the question. The hand now laid upon the upper chest may perceive a thrill, as if the walls of the arteries had become unduly and irregularly rigid or as if eddies were formed in dilated channels. The arch is often to be felt by the finger tip in the suprasternal notch, especially if the patient be thin and will bend his head forwards. Sometimes, however, this pulsation is remarkable by its absence. In an advanced case a quick observer may estimate some difference of strength in the beats of the carotids, and, if so, he will note the point as possibly significant of some incrustation about the orifice of one of them. The dome of the innominate may be visible or palpable and if the patient be made to depress the point of the right shoulder the right subclavian, as M. Faure has told us, may be palpable or even visible above the collar bone. This sign I had observed for myself and in some cases I had seen the subclavian rising even an inch above the bone, so that at one time I was too sanguine of the value of the test, which I now know may be slight or absent for some reason or another even in an advanced case. The sign has a positive but not a negative value. The orifices of the arteries which take their rise from the thoracic aorta are, as we remember, especially obnoxious to the stresses of the blood current; they incur minute lesions upon which atheromatous patches may so gather as to narrow them; a quick eye may note consequent differences in the diastolic volumes of pairs of arteries and he may find the radial pulses to be an unequal pair. Or again, if atheroma have invaded a pair of orifices, the pulses of the corresponding arteries may be judged as falling alike under the general standard of pressure. Of such a bilateral defect I have felt assured in more than one patient; I am thinking of one case of equal defect in the carotids and of another of equal defect in the brachials. I repeat, by the way, that I exclude from consideration all cases in which peripheral arterial disease obviously interfered.

More trustworthy evidence of elongation of the ascending aorta than may be afforded by the subclavians was pointed out by Traube and verified by Edgren and others, besides myself—namely, mobility of the apex of the heart. Undue and even extreme mobility of the heart is seen in other maladies, as, for example, in neurasthenia, but by other features this and such maladies can be excluded. We turn the patient, who was lying upon his back, on his left side, and as he turns we find the apex of the heart swinging outwards also, until it may make itself perceptible far outside its proper place. At the same time the left parasternal line of absolute dulness moves to the left but not to the same degree. Assuming, as for the moment I must, that the apex of the heart occupies its normal place, it may fall away even to the anterior axillary line. We may be satisfied of undue mobility even in a large heart; or, again, we may attribute some extrusion of the apex to elongation of the aorta rather than to ventricular hypertrophy. But such nice points as these, if often soluble in individual cases, cannot be reduced to rule. As in aortic aneurysm, cardiac hypertrophy has no necessary association with atheroma of the aorta. Under the head of inspection I should include radioscopy; by its means dilatation of the aorta can be seen but only in its larger degrees. The method is useful rather to exclude saccular aneurysm of the arch or possibly to betray the presence of one of the small aneurysms which are apt to arise at the root of the aorta, and which occasionally give rise to angina pectoris and to some of the other symptoms which I have considered with it. Dr. Williams of New York [2] tells us that calcification of the arch may be seen by the x rays; if so, the discovery, from a clinical point of view, would be more curious than important.

Percussion is the most valuable single method we have of detecting dilatation of the aorta, whether the dilatation be temporary and often variable, as in acute aortitis, or static, as in chronic cases. According to the degree of dilatation a dull area may be delineated occupying an area including the manubrium sterni and extending thence towards the second space and the third cartilage on the right. As the upper part of this dull area extends from the base of the breastbone in a segment of a circle to the right it has been likened to the crest of a fireman's helmet; a comparison made, I believe, by Potain, who did much to verify and to affirm this change and, so far as my experience goes, with good reason. The sign is invaluable and is generally trustworthy, if we bear in mind the common occurrence of emphysema in these atheromatous persons. The area, though near, is distinct from that of the right auricle which lies below it. In a case of Hodgson's disease lately under my care and verified by necropsy this semilunar area dulness projected, in a man over six feet, four centimetres to the right of the sternum. Potain warns us—and his warning is good for all cardio-vascular percussions—to delineate the area of dulness not by advancing outwards from the body of it, but by approaching all segments of its circumference on convergent lines from the surrounding resonance. Dr. A. E. Sansom advises the use of the pleximeter for these methods; the pleximeter is very useful for class teaching, but to me at any rate the help of the sensibility of the under finger is indispensable.

The signs of auscultation are inconstant and equivocal; moreover, even on paper it is difficult to divide the evidence of mere aortic from that of cardiac disease. In mere aortic disease, for example, we may hear no systolic murmur, even in an advanced case we may not; on the other hand, a systolic murmur may be audible, but whether it be one of stenosis or one of fluid veins in a dilated arch it may be difficult to say. In the latter case it may be widely propagated into the arteries, and loud over the descending arch behind; in the former case it may be confined to narrower limits, and may present the *roulement présystolique* of Lemoine, a phenomenon which always reminds me of Quain and Morison's experiments on the generation of the first sound.

A certain quality of the second sound may be of cardinal value, unfortunately it is often far from constant. This quality may be reinforced by high arterial pressure, but is not by any means dependent upon it. It is a clang which has been so aptly compared by Potain to the tap of the tabourka—a drum made of a skin tightly stretched upon an earthern pot—that I hope this word will be imported into England also. That the *bruit de tabourka* never occurs in mere aortic stenosis I cannot say—these cases are not frequent, but it was not present in four such cases of my own experience. And it tells us not exactly the state of the aorta, but of a state of the valve often associated with disease of the aorta. Thus it has no direct message from the aorta to us; indeed, the aorta remaining the same, it often wanes or alters, not with variation of blood pressure, but as the valve by some pathological change alters in thickness or in its relation to the other parts of the instrument. Yet in spite of all these contingencies, the tabourka sound tells an unmistakeable tale; and assuredly even its alterations may often enlarge rather than obscure our knowledge of a

[2] Röntgen Rays in Medicine, 1901.

particular case. That a muffling of it might suggest progressive disease at the base I have said; if, on the other hand, to the stethoscope placed in the jugular fossa it persists, while pressure is falling, with perhaps some arhythmia, some acceleration, or some retardation of the pulse-rate; or, again, if, while the aorta is heaving and the carotids are throbbing, yet the distal pulses of the dorsales pedis or the anterior tibials are feeble, we shall apprehend coronary disease and cardiac default.

A murmur, even if systolic only, in my opinion generally means valvular disease, spreading it may be from above, as in a well-observed case of luetic aortitis I saw with Mr. S. W. MacIlwaine. In this patient, ably observed by his physician, the first stage consisted of a dilated arch and systolic murmur; in the second stage a regurgitant murmur appeared, for a while occasionally; then, recurring more and more frequently, it became permanent; in the third stage mitral regurgitation was heard, venous pressure rose, and cardiac failure was accomplished. Relative aortic insufficiency I still think, with great respect to Dr. G Newton Pitt and others, is clinically rare, in spite of museum specimens. When it occurs, however, I admit that the regurgitant murmur is often so faint, so distant, so inconstant that unless while the patient holds his breath all possible areas of such a murmur are traversed, it may well escape the physician who is not on his guard. That a murmur may be caused during cardiac diastole by recurrent fluid veins within the dilated arch itself I will not deny but am not ready to admit. Of one more physical sign, one sometimes of cardinal importance, I have yet to speak—of the chafing sound of a dry, basic pericarditis, occasionally associated with aortitis. Pericarditis about the aorta may arise, I suspect, in two modes: first from the outside, invading the circumference of the aorta embraced by it; secondly, from within, whence aortitis penetrates to the investing pericardium. The former cases are usually rheumatic but they may come of other infections, of Bright's disease and some other maladies. Now, whether the pericarditis be of inner or outer origin, it is so frequently attended by angina pectoris that a nice appreciation of these conditions may be, I repeat, of cardinal importance. That the angina pectoris in these cases is independent of coronary disease has been demonstrated by Pawinski in the remarkable essay in the *Deutsches Archiv für Klinische Medicin* for September, 1897, from which I have quoted before. In such cases, therefore, the sounds of pericardial friction must be vigilantly sought for. I have learnt from them the cause of angina pectoris in acute rheumatism and in some cases of chronic disease and have traced angina pectoris to an intercurrent attack of this inflammation. It is a pleasure to add, by the way, that for this pericarditic angina something remedial can be done by cupping, poultices, and later by blisters. I agree with Pawinski that ice is better avoided and also such cardiac depressants as phenacetin and its congeners. I commend to you this essay of Pawinski, not because it gives a strong support to my long-published opinions on the nature of angina, but for its useful matter and thoughtful discussion. Let it not be supposed that pericarditic angina is alien from a suppositious coronary angina in respect of fatality.

In a case of pericarditis sicca described by Auscher[3] three attacks of classical angina pectoris occurred, one of which caused syncope. The patient recovered but nine months later died from rapid phthisis. At the necropsy the signs of post basic pericarditis were discovered, but to the naked eye and the microscope the aorta, the heart, and the coronary arteries were alike "*irréprochable.*"

Rupture of the aorta is most commonly indirect; the rupture is of an aneurysm, large or small. Acute perforative disease, such as in the case of Oliver and Woodhead, is very rare and save in some striking circumstances must be beyond diagnosis. In chronic disease, even omitting ordinary aneurysm, rupture is an infrequent, but not an extraordinary, event. Many cases no doubt escape diagnosis, but since Broca published his leading paper[4] many cases have been submitted to the proof of dissection. [Professor Clifford Allbutt here gave other references and having referred to developmental deformities and to the aortic hypoplasia with nephritis studied by Virchow he concluded:]

Gentlemen, I thank you for the distinction you bestowed upon me in my election as your Cavendish lecturer and for the patience with which you have heard my address. That I have proved worthy of the distinction I cannot venture to believe; your patience I have surely abused; yet, tedious as I may have been, there is much matter in my subject I have had to omit and much shortcoming in my discussion for which I must pray your forgiveness.

[3] Bulletin de la Société Anatomique de Paris, February, 1896.
[4] Ibid., 1850.

A Clinical Lecture
ON
GASTRIC ULCER AND ITS SURGERY.

Delivered at the Medical Graduates' College and Polyclinic on Dec. 9th, 1901.

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GENTLEMEN,—I am sure that you will appreciate the difficulty that lies before me in attempting to compress the facts connected with the surgical treatment of gastric ulcer and its complications into one short lecture, and the more so since it is desirable to include a few general facts connected with the affection because, although much has been written there-anent, it is only of recent years that we have developed clear ideas concerning the conditions met with. It is scarcely necessary for me to emphasise the importance of this affection, whether looked at from the medical or from the surgical side, on account both of its frequency and of its mortality. Thus Ewald calculated that 4 or 5 per cent. of all Germans were the subjects of this trouble, whilst Leube, speaking at the German Surgical Congress in 1897, was able to refer to 1000 cases which had been under his care during the preceding ten years. Greenough and Joslin[1] reported on the cases admitted into the Massachusetts General Hospital between the years 1838 and 1898 and found that of 13,097 patients there were 187 cases of gastric ulcer—i.e., 1·4 per cent. These figures accord with a fair degree of consistency with those given by Welch in Pepper's "System of Medicine" (published in 1885), who found that out of 32,052 post-mortem examinations open ulcers were present in from 1 to 2 per cent., whilst open or cicatrised ulcers were present in 5 per cent. of the cases.

The estimates as to the mortality of the affection are very variable and this is probably due to the different criteria which are admitted to warrant a diagnosis of gastric ulcer by differing authorities, whilst great divergence is to be found in the figures according to whether the authors deduce them from clinical or from post-mortem material. Thus Leube, arguing from the clinical side, puts the death-rate at 2·4 per cent., whilst Mikulicz, working from the records of the post-mortem room, puts it at from 25 to 30 per cent. There are possible fallacies in connexion with Leube's figures in that he merely deals with the cases as they appear at his clinique and we have no knowledge as to their after-history or, at any rate, only incomplete knowledge. It is therefore extremely probable that he has considerably under-estimated the death-rate, whilst those who merely argue from material supplied by the dead-house are likely to exaggerate the mortality, since all the bad results come before them. Probably Welch's figures of 15 per cent. are as nearly accurate as we can expect.

It is passing strange that, these things being so, our knowledge of the etiology of gastric ulcer is so very defective. Theories in abundance have been provided, many of them far-fetched and very unlikely to be accurate and most of them based on fallacious ideas of the morbid anatomy and facts of the case. Embolus or spasm of a terminal branch of the gastric artery, thrombosis of venous or arterial twigs in the stomach wall, injury to the structures of the stomach wall from without or from within, neurotrophic lesions, and other vague and indefinite possibilities have all been called on to explain the incidence of this affection, and possibly all these suggestions together may account for an insignificant

[1] American Journal of the Medical Sciences, August, 1899.

percentage of the cases. The majority of them are entirely suppositions and based on very thin substrata of facts. A useful paper dealing with this subject has been recently contributed to the *Bristol Medico-Chirurgical Journal* by Dr. W. Gordon of Exeter who, in the first place, lays stress on the fact that much harm has arisen from the oft-repeated statement that gastric ulcers are not inflammatory in nature, though how they can come into existence otherwise it is a little difficult to see. The absence of inflammatory phenomena in the gastric wall on the post-mortem table is no evidence in support of this idea, since inflammatory hyperæmia usually disappears after death; the surgical records of the appearance of ulcers in the living subject certainly do not agree with the non-inflammatory theory of causation. Dr. Gordon then points out a fact of every-day knowledge of which we have not yet sufficiently appreciated the importance—viz., that we are constantly swallowing microbes in abundance—and it is not difficult to imagine what would be the effect of rubbing a culture of, say, staphylococci into the gastric mucosa, especially if the subject were in a weakly anæmic condition or if the stomach wall were already the site of a patchy gastritis from some other cause, such as unsuitable food. In some cases a localised focus of acute inflammation might result, leading to necrosis of the centre of the patch as in a boil, the necrosed tissue being digested by the gastric juice and thus the cleanly punched-out ulcer we know so well, and which perforates so frequently, might result. Less acute infections might cause either superficial erosions which quickly heal, or even chronic sores which would naturally be surrounded by a well-marked zone of thickened tissue. In support of this idea Dr. Gordon reports the microscopic examination of the gastric wall around an acute ulcer which had perforated, and it was found that micrococci were present not only on the surface of the sore but had also penetrated deeply. Moreover, it must be remembered that the acid of the gastric juice is an inhibitor to the development of pyogenic micro-organisms and that therefore those parts of the stomach are most likely to be involved in ulcerations produced in this way where the mucous membrane is least exposed to the gastric secretion. Now the pyloric portion of the stomach only secretes alkaline fluid and it is here that ulcers are most common. Again, the existence of two ulcers on the anterior and posterior walls, one touching the other, as occurs not unfrequently, is strongly suggestive of some infective cause of the trouble. Whatever the pathology and etiology of the affection are there can be no question as to the clinical importance of a distinction between an acute and a chronic form of gastric ulcer.

The *acute ulcer* develops with almost equal frequency over all parts of the viscus, though most frequently in the neighbourhood of the lesser curvature and on the posterior rather than the anterior wall. It is solitary in scarcely one-half of the cases, for in the greater proportion one or more additional ulcers are present. It is not unusual in the latter circumstances to find the sores on corresponding spots on the opposing surfaces, but it can be generally demonstrated that the posterior ulcer is the earlier. Occasionally a cicatrix of a healed ulcer is to be found close to one that is still open. These acute ulcers are rarely of large size, seldom being larger than a sixpenny-piece, and are generally round or oval in shape. There is nothing very astonishing in this fact and the suggestion that it is due to the method of termination of the smaller arterioles is quite needless, especially if it be true that the majority of ulcers are unconnected with vascular lesions. The contraction associated with any healing wound necessarily impresses upon it a shape which is rounded in outline and it seems very unlikely that there is any greater peculiarity in this direction with the gastric mucosa which is loosely attached to its underlying tissues than with the skin. The edges of the sore are sharply cut as a rule and the ulcer itself forms a hollow cone which is somewhat obliquely placed, so that its apex is not central. Virchow originally suggested that this shape was due to the auto-digestion of an area devitalised as the result of embolic obstruction of a terminal arteriole, but since it is very doubtful that this explanation is correct it is likely that the shape is merely due to the unequal contraction of the various coats of the gastric wall.

The *chronic ulcer* is of a very different nature and necessarily leads to very different results. It is solitary in about 87 per cent. of the cases (Fenwick) and is situated in 75 per cent. in the pyloric region, especially affecting the posterior surface and the neighbourhood of the lesser curvature. In quite a considerable proportion the orifice is itself involved in the ulceration, either directly or by extension of the ulcerative process. The size varies considerably, but as it is of a chronic nature it is easy to appreciate that it is frequently of large dimensions, involving many square inches. The shape is irregular, though the outline is more or less circular and not unfrequently crenated as though due to the amalgamation of several sores. One special form demands attention in that it leads to much subsequent deformity—viz., what is known as the horse-shoe variety, in which the ulcer extends equally on both the anterior and posterior surfaces of the stomach from the lesser curvature. It has even been known to surround the whole viscus, constituting an annular ulcer. The margins of the sore are sometimes raised and thickened from chronic infiltration and the base consists of whatever tissues have been exposed by the ulcerative process, not unfrequently the structures which lie behind the lesser sac of the peritoneum. Vessels which are involved by the ulcer are obliterated or may be eroded, and hence hæmorrhage is a not uncommon sequela of this process. Necessarily contraction from the amount of cicatricial tissue developed in and around a chronic ulcer is constantly seen and gives rise to sundry complications.

It has been already pointed out that there is a considerable discrepancy between the statistics connected with this subject given by different authors and the suggestion has been made that possibly the more favourable figures have been gained by merely considering the immediate results of treatment. That this is likely to be the case is emphasised by the report of Greenough and Joslin already alluded to. The immediate results in the 187 cases treated at the Massachusetts General Hospital were as follows: cured, 64 per cent.; relieved, 18 per cent.; deaths, 8 per cent.; uncertain, 10 per cent. Investigation five years later brought answers in 114 different cases. 92 of them had been dismissed as cured or relieved. Of these 12 were dead, 42 remained cured, and in no fewer than 38 cases had there been recurrence. Of the whole series of 114, 40 per cent. were cured as to their gastric symptoms, although three of these cases had died from some other cause; 36 per cent. had suffered from recurrence; 23 patients, or 20 per cent., had died from gastric causes; and 4 per cent. had died from some unknown cause. Of the 23 deaths 15 had occurred in the hospital and the details were known; the others died out of hospital and the exact cause was not ascertained. Of the 15 deaths in hospital seven were due to hæmorrhage, six to perforation, one as the result of an exploratory laparotomy, and one from the development of cancer on the site of the ulcer.

Without discussing further statistics, which would only be wearisome in a lecture, it is obvious that there is a considerable field for surgical enterprise in this disease. A death-rate of 20 per cent. is greater than we may expect from surgical work, whilst it is probable that if skilled surgical assistance is given at a sufficiently early period the percentage of cures after an interval of five years would be considerably greater than 40 per cent. Even taking the most favourable statistics, those of Leube, 26 per cent. of his cases were admittedly uncured on their discharge from hospital. It is therefore necessary to inquire carefully into those conditions in which the surgeon is most likely to be interested and we may profitably consider them under five distinct headings.

1. *Recurrence or persistence* without obvious complications is quite sufficient warrant for surgical interference, not only because such complications are liable at any moment to supervene, but also because it involves a greater or less degree of chronic invalidism and prevents the patient from fulfilling her ordinary duties, whilst it may determine the development of carcinoma at a later date. Two groups of cases are included under this category—viz., those in which the symptoms persist in spite of suitable treatment, and those in which there is considerable improvement as an outcome of treatment, but in which the symptoms return as soon as the strict regime is interrupted. Patients in whom symptoms persist in spite of careful dieting or even of rectal alimentation are probably the subjects of a chronic ulcer which, as already mentioned, may attain considerable dimensions and is very likely to be adherent to surrounding structures, especially when, as is so often the case, it is situated on the posterior wall. The sore is then in the condition of a chronic ulcer of

the leg, the base of which has become attached to the periosteum over the tibia; contraction is almost impossible, and cicatrisation, even if it occurs, rarely leads to permanent healing, since as soon as the patient begins to walk about the sore breaks open again. Of course, such individuals are very liable to suffer from perigastric inflammatory affections or from severe hæmorrhage and there is obviously only one line of treatment which holds out any prospects of amelioration—viz., surgical interference with a view either to remove the lesion or to give the stomach an opportunity of obtaining a greater degree of rest than would otherwise be the case. Complete removal of the ulcer would be the ideal treatment, but such is usually impracticable owing to its size and position. The walls are thickened, the base is attached to deeply lying structures, and even were removal possible owing to its anterior situation yet it would be a question whether the patient, who is sure to be in an extremely debilitated condition, would be able to stand the operation. One is therefore limited to a choice between pyloroplasty and gastro-enterostomy and seeing that in these cases the organ is likely to be considerably enlarged, that its motor powers are much diminished owing not only to the adhesions present but also to an associated chronic interstitial gastritis, and that its situation frequently near the pylorus would interfere with the functional value of an enlarged opening to the stomach in that situation, it is advisable to rely on gastro-enterostomy. The mortality is probably a little higher than that of pyloroplasty, but the advantages it presents are certainly greater. The emptying of the viscus is assisted by gravity and is not left to depend solely on the motility of the stomach, and therefore it is probable that the food passes into the jejunum at an earlier period, thereby securing greater rest.

When the symptoms of gastric ulcer recur after an interval of comparative comfort, it is probable that not a few causes may be found to explain the phenomena. In a large majority of cases the return of the patient to ordinary habits of life will probably be associated with defective nutrition or with the use of unsuitable food, and not unlikely with considerable depreciation of the general health as an outcome of bad sanitary conditions. Domestic servants are especially liable to recurrence from these causes. Again, possibly there may be some connexion between a neglected pyorrhœa alveolaris and recurrence; the constant absorption of toxic material, to say nothing of virulent organisms, is not calculated to help a cicatrix to remain whole. The simple physical movements associated with ordinary digestion involve a lack of rest to the part and may predispose to the scar giving way under sufficient irritation. Then, too, there may be some slight pyloric stenosis, insufficient to lead to any marked gastric distension, but quite enough to interfere with the motility of the organ and thereby to cause symptoms, especially in a neurotic individual. External adhesions may similarly interrupt the regularity of the peristaltic movements and cause trouble and should the adhesion be, as in one of my cases, between the stomach and the omentum and not between the stomach and the anterior abdominal wall, it would not be associated with a localising pain. Not unfrequently an excessive acidity of the gastric juice (hyperchlorhydria) may be present, leading to spasm of the pylorus; at other times a deficient amount of hydrochloric acid is present, suggesting the existence of carcinoma, a complication which follows chronic ulceration in a larger percentage of cases than is usually supposed. Two cases that I have had under observation within recent years at King's College Hospital are interesting in this connexion and worthy of mention. In each of them the patient was brought to me in a very debilitated condition with typical symptoms of chronic gastric ulcer; in each I opened the organ and found no open ulcer; and in each I performed pyloroplasty, and the result in both has been equally good.

In the first case, E. W., a girl, aged 19 years, somewhat neurotic, was sent to me by Mr. E. W. Adams of Slough, suffering from what appeared to be typical symptoms of gastric ulcer. As they had recurred again and again in spite of suitable treatment I opened the organ and found nothing to explain the condition. The index finger was passed down the pylorus and experienced no obstruction. The wound was stitched up and the patient's condition improved considerably. The symptoms recurred, however, two years later and she was again sent to me in a state of great inanition from the difficulty in nutrition. Again the stomach was exposed and it was satisfactory to note that no evidences of the former operation existed; indeed, it was difficult to detect where the incision in the stomach had been made. I opened the viscus a second time and was now able to feel a decided stenosis of the pylorus. Pyloroplasty was performed in the usual way and the patient made a rapid and satisfactory convalescence. Within ten days she was able to eat and to digest a good solid meal and the last report I had of her was that she had become plump and well favoured.

The second case was that of an older woman, between 30 and 40 years of age, also sent to me by Mr. Adams. She had been troubled for years with gastric symptoms which recurred time and again and had recently been so grave that she had been unable to follow her occupation. She was in a very bad state of nutrition and in consultation with Dr. W. Aldren Turner we came to the conclusion that she had a chronic ulcer, possibly becoming carcinomatous, situated along the lesser curvature. On operation one found nothing abnormal except an adhesion which stretched across the pylorus from the stomach to the duodenum; the finger within the stomach could find no evidence of any ulcer or scar. Pyloroplasty was performed, and although the patient's convalescence was prolonged owing to a mental condition which seemed likely at one time to necessitate her removal to an asylum, yet she recovered perfectly and was able to return to her work, the latest report being that she was able to eat well and that her dyspeptic symptoms had disappeared.

2. *Hæmorrhage* is one of the most characteristic phenomena associated with ulcers of the stomach and may require operative treatment. It is said to occur in about 50 per cent. of the cases and is responsible for from 3 to 11 per cent. of the deaths from this affection. It is probable that there is a certain amount of loss of blood in all cases, but unless it attains certain proportions it is likely to pass unnoticed. All the more severe hæmorrhages arise from the erosion of definite vessels. Thus in the acute ulcers the smaller arterioles are usually involved, whereas in the chronic ulcer the blood may escape either from a larger trunk that has become exposed, even from such an artery as the splenic, or possibly from a dilated and varicose vein in the gastric mucosa. The amount of blood lost varies considerably in the two cases. In the acute ulcers where there is but little infiltration or induration of the margins, the conditions present are favourable to the contraction of the opening in the arterial wall, and therefore it usually ceases before long. In accordance with this statement it is unusual to find cases of fatal hæmorrhage amongst young women; they bleed, but the hæmorrhage is not fatal; they die from perforation. On the other hand, when a chronic ulcer exists it is characterised by a gradual erosion of the gastric walls and even of the tissues which lie behind or around it; the parts are stiff and infiltrated and should a vessel be opened up by the ulcerative process it is very unlikely to close of itself, because contraction is almost impossible, and therefore we find the cases of fatal hæmorrhage amongst the subjects of chronic ulcer. Thus, in the cases reported by Greenough and Joslin, seven died from hæmorrhage and of these five were men, giving a death-rate from this cause of 17 per cent. amongst the men and of 1·27 per cent. in the women. The average age of these seven patients was 46·5 years. In accordance with this statement one might refer to the paper of Dr. Donald Hood read before the Medical Society of London on Feb. 16th, 1892, in which he stated that during a period of 20 years at one of our largest London hospitals (Guy's) "there has been no recorded case of fatal hæmorrhage occurring in the person of a young female the subject of gastric ulcer." The actual attack of bleeding is often caused by some injudicious activity, especially after a good meal when the organ is presumably distended. The patient feels sick and faint, perhaps there may be sudden pain or a feeling of trickling in the epigastrium; the distension of the organ may lead to a sensation of cardiac oppression, and vomiting is likely to follow, although in a few fatal cases death has occurred without the stomach having emptied itself. When the bleeding ceases the patient of course feels collapsed and perhaps faint, and passes through all the subsequent phenomena associated with loss of blood. Part of the blood travels on into the intestine and is voided with the stools, constituting the condition known as melæna. It is unusual for a patient to die from the first attack of hæmorrhage and not common for death to ensue directly as the result of the bleeding. The usual story is that death is due to the prostration and exhaustion that supervene after several recurrent attacks.

It is not my intention to enter here into a prolonged

discussion as to the treatment of this condition, since it has been so elaborately dealt with by Mr. A. W. Mayo Robson at a recent date. Suffice it to say that it is generally conceded that operative interference is undesirable in the first hæmorrhage, even if it be a tolerably severe attack, and therefore rest, the administration of opium and astringents, and the combating of the immediate phenomena of anæmia by the use of salt-and-water injections are the means that should be utilised. Tripier speaks highly of the value as a reflex hæmostatic of injections into the rectum of saline solution at a temperature of from 112° to 120° F. and this one can fully credit. Of course, it seems scarcely in accordance with the established rules of surgery to deal with hæmorrhage in this way when it might be possible to attack the actual bleeding spot, and Lund of Boston institutes a comparison with our method of dealing with a ruptured extra-uterine fœtation where the patient is dying from hæmorrhage. In the latter we do not wait for the bleeding to stop but open the abdomen, secure the bleeding point and then stimulate the patient. The comparison, however, is scarcely just in that it omits all notice of the difficulty of finding the bleeding point in the stomach, whereas it is the simplest thing in the world to slip one's hand into the pelvis and grasp the broad ligament and thus stop the bleeding. The time that would be wasted in finding the bleeding point and the shock which would result from the necessary handling of the parts, which are so closely in relation with the sympathetic centres, are quite sufficient reasons to make one hesitate before recommending such a course of practice and the actual fact is that the mortality of operation for a severe hæmorrhage is very high, 60 per cent. according to Robson and 37·5 per cent. according to Rodman.

It is a different matter, however, when the patient is the subject of persistent or recurrent hæmorrhages which are threatening his life from exhaustion. In these circumstances operation is most desirable and the results are exceedingly satisfactory. An incision is made in the median line and the stomach is explored so as to ascertain, if possible, the location of the ulcer. Should none be found the organ is freely opened, after emptying it by pressing on its contents into the duodenum and carefully protecting the peritoneum. The interior is then methodically explored. It may be possible to ligature the bleeding point, but where feasible complete excision of the ulcer is better practice. If neither of these measures is available the spot may be touched with a point of cautery and gastro-enterostomy performed so as to put the organ at rest. Where no bleeding point can be found and the hæmorrhage is probably of capillary origin a gastro-enterostomy is still the correct measure to adopt. Should the ulcer be situated close to, or on, the pylorus excision of that portion may be desirable.

3. *Perforation* of a gastric ulcer is certainly the most alarming complication which may arise during its course. It is a little difficult to ascertain the exact percentage of cases in which it occurs as reports give such very different figures, the divergence again being probably due to the fact that some writers are working from clinical and some from pathological material, the latter giving much the higher figures. Thus, Dr. W. S. Fenwick, speaking from a series of 112 necropsies, found death was due to acute perforation in 28·5 per cent., though when a larger series of 678 was taken the mortality was reduced to 22·8 per cent. These figures agree pretty accurately with those given by Professor Browicz of Cracow who in ten years examined 95 subjects who had died from gastric ulcer and found 28·4 per cent. of the deaths were due to perforation. In striking contrast with this may be quoted the figures given by Leube of Würzburg who treated 556 cases and only lost 12 from acute perforation—i.e., about 2 per cent. In the list of 187 patients treated at the Massachusetts Hospital already alluded to, only six perforated—i.e., 3·2 per cent. Mayo Robson quotes Brinton with a perforation percentage of from 13 to 15, whilst Habershon stated that 18 per cent. perforated; he himself estimates the figures at from 15 to 20 per cent. It is possible that in many of these estimates the chronic extension of the ulcer into the perigastric structures with the formation of a localised abscess are included, but, of course, these should not be considered under the same heading as those cases where the peritoneal cavity is actually laid open, allowing the gastric contents to escape. Welch, whose work has already been referred to and whose conclusions are so judicious, put the proportion of perforations at 6 per cent. and my personal opinion is that he is much nearer the mark than those who estimate it at a higher figure.

As to the type of ulcer which gives rise to perforation, there can be but little question that it is the acute small round ulcer which is most liable to this termination and in accordance with this idea the class of patient who is most frequently affected thereby is the young domestic servant or seamstress, whose age averages from 15 to 25 years. Thus in a series of 232 cases published by Tinker of Philadelphia[2] there were included 104 young women of 25 years or less and only 44 over that age, whilst amongst the men there were only two cases under 25 years of age, as opposed to 43 over that age. Taken generally there were five times as many women affected with perforation as men. There may have been well-marked pre-existing symptoms of gastric ulcer, or perforation may occur without any such phenomena; Fenwick states that in rather more than 3 per cent. of his cases the perforation was the first symptom of stomach trouble. The situation of the lesion does not in any way correspond with that in which ulcers are usually found, since it is the ulcers on the anterior wall which are liable to this complication. Indeed, of 78 operation cases analysed by Fenwick 80·5 per cent. were on the anterior wall and 19·5 per cent. on the posterior, whilst 56 per cent. were near the cardiac end, 24 per cent. in the middle zone, and only 20 per cent. near the pylorus. Half the cases were definitely near the lesser curvature. These figures indicate that the situation which should first be examined in performing a laparotomy on such a case is the anterior wall, near the cardiac end and not far from the lesser curvature, and to expose such a spot means a high incision carried well up towards the ensiform appendix. Indeed, so high is the perforation that it is sometimes a matter of the greatest difficulty to securely suture the opening. There can be very little doubt that the frequency of perforation in the anterior wall is due to the greater fixity and less mobility of the posterior which predispose to the formation of protective adhesions between the two layers of the lesser peritoneal sac.

The clinical features of a case of acute perforation of the stomach are very similar to those which follow any other perforative lesion of the intestinal tract and consist in the earlier stages of severe pain and shock followed by the phenomena of an acute and sometimes of a fulminating peritonitis. It is a question whether or not a pre-perforative stage can be recognised clinically, and although I have already alluded to the fact that in a small percentage of cases there are not even the ordinary symptoms of a gastric ulcer, yet in a few patients there can be no doubt that perforation has been preceded by an increase of the pain, tenderness, and other symptoms, especially on taking food, which should suggest that the destructive lesion is progressing in depth. Lund of Boston[3] reported such a case in which for one week the patient's pain had increased to such an extent that she was unable to sit up and this was followed by an acute and violent accession of the pain which doubled her up and was due to the actual perforation. Any patient with gastric ulcer who complains of a gradually increasing pain should be looked on as possibly on the way towards perforation and all stomach feeding should be at once interdicted. At the same time she should be put to bed and placed under the influence of opium in order to check peristalsis and to keep the parts at rest.

The actual perforation is due to traumatism in many cases, although this is usually of a slight nature. When the walls of the stomach, naturally somewhat thinner towards the cardiac end than elsewhere, become attenuated as the result of ulceration, it is obvious that it must take very little pressure to cause a rupture, and hence it is not unusual to get some history of merely carrying a can of water upstairs, or, perhaps, an attack of vomiting or retching which determined the final catastrophe. The opening may be small or large and the amount of extravasation depends partly on the size of the aperture and partly on the quantity of material which is contained in the stomach at the time. Granted an empty stomach and a small opening, the symptoms may be comparatively slight, peritonitis, perhaps, being of a plastic type and quite localised, or at any rate coming on at a later date and more quietly than in the usual run of cases. As an illustration of this let me refer to a servant

[2] Philadelphia Medical Journal, Feb. 3rd, 1900.
[3] Boston Medical and Surgical Journal, June 6th, 1901.

girl whom I was called on to see a few months back by my friend, Mr. Adams. She had previously had symptoms of gastric ulcer, for which she had been carefully dieted and treated. One day when going upstairs with a can of water just before her dinner time in order to change her dress, she was seized with acute epigastric pain spreading down towards the umbilicus and rapidly radiating in all directions. She became faint and collapsed and was helped to bed. A small dose of morphia was given to relieve the pain and all stomach feeding was interdicted. Some amount of tympanites ensued and the abdomen became extremely tender. When I saw her a little more than 24 hours after the occurrence I found the abdomen still swollen and tender but not extremely so, and although the muscles on the left side above the umbilicus were rigid, yet there was no great rigidity about the rest of the abdomen; she complained of less pain, was clear and collected, her face was free from anxiety, the pulse was good, and there had been no vomiting. I therefore decided that it was justifiable to treat her by the expectant method. There can be no question that she had a perforation of a gastric ulcer, but it must have been a very small one, and the stomach being empty at the time it resulted in very little extravasation. She was almost at once placed in the horizontal posture, and hence the peritonitis which ensued was very slight and natural processes of repair were sufficient to deal with the case. About 4 per cent of all cases of perforation may be expected to follow a favourable course like this.

It is hardly necessary to go into lengthy details as to the course taken by those cases which result in acute peritonitis, as the picture is only too well known. Although the symptoms of a perforating gastric ulcer are very typical when a complete history is obtainable, yet there are not a few cases in which an acute peritonitis is operated on without an idea that the stomach is the primary cause of the trouble. Patients occasionally refer the greater part of their pain, even that associated with the onset, to the hypogastrium or to the iliac fossæ, so that the abdomen may be opened below the umbilicus in the idea that a perforative appendicitis is present. Should odourless gas escape when the incision is made a gastric origin of the trouble may be at once diagnosed, since any intra-abdominal gas dependent on a lesion of the appendix is almost certain to be offensive in nature. Again, some patients with gastric ulcer are liable to sudden attacks of pain with slight rise of temperature and aggravation of the symptoms. There may be many possible causes for such an occurrence, but they are not due to acute perforation. I remember being called down to hospital once or twice in the middle of the night to see such cases. In one there was certainly a good deal of abdominal pain with some distension; but the temperature was raised, the face was free from anxiety, there was none of that apathy, that sunken look of the eyes which one knows only too well in connexion with severe intra-abdominal mischief and which one always looks on with such suspicion, and therefore I refused to operate and ordered fomentations, the discontinuance of gastric feeding, and the administration of a little opium. She recovered perfectly. It is interesting to note that subsequently she was taken with similar symptoms at another hospital, when laparotomy was performed and nothing abnormal was found.

The outlook of these cases apart from operative treatment is dark indeed, since about 96 per cent. of them are probably doomed to death. The prognosis of operative treatment depends almost entirely upon the period at which operation is undertaken. One cannot but admire the persistency with which surgeons followed up this affection in the determination to snatch its victims from a certain death in spite of the terrible statistics which one had at first to acknowledge. Thus Mikulicz, who it will be remembered was the first surgeon to perform an operation for perforating gastric ulcer in 1880, reported to the German Surgical Congress in 1897 that between the years 1885 and 1893 35 cases were operated on, but with only one recovery. Things are now very different. Between the years 1894 and 1896 inclusive Mikulicz was able to find records of 68 operations and of these 38 died, giving a death-rate of 52 94 per cent. Perhaps the most important point in this connexion is the time after perforation that the operation takes place—the longer it is delayed the greater the mortality.

In connexion with the question as to the length of time which elapsed between the perforation and the operation, the figures published by Tinker[4] are interesting. In 232 cases of operation which he had been able to collect the percentage mortality of the whole list was 48·81 per cent., but if one took into consideration only those cases which were dealt with within 12 hours of perforation the death-rate sank to 25 per cent., whilst of the 118 cases treated within 24 hours of the onset the death-rate was 37·3 per cent. On the other hand, 71·42 per cent. of the patients succumbed who were submitted to operation between 24 and 48 hours after the accident. It is therefore essential that, as soon as a diagnosis of perforation has been made, preparations for operation should be undertaken. If the patient is in great pain a small dose of morphia is desirable, acting by diminishing shock and also by limiting peristalsis, and therefore tending to check intraperitoneal extravasation. If the patient is much collapsed the usual means of counteracting shock must be relied on—e.g., hot bottles to the extremities, enemata of brandy or preferably hot coffee, and infusion of hot salt solution under the breasts or into a vein. I have several times started an abdominal operation, when the patient was much depressed and in danger of collapse, by opening the median basilic vein or the internal saphena, introducing the cannula of a transfusion apparatus, and then handing over to an assistant the task of slowly introducing four or five pints of hot saline solution whilst I proceeded with my abdominal investigation, and one has seen such a patient with a better pulse after the operation than before it. The abdomen is usually opened by a median incision reaching from the ensiform appendix downwards, perhaps as far as the umbilicus; it is absolutely necessary to have a large incision so as to be able thoroughly to explore the top of the abdomen. It is sometimes very difficult to reach the opening in the stomach, since it is tucked away under the ribs near the cardiac orifice, and therefore it may be desirable to make a transverse cut to the left or to the right to enable one the better to expose the parts. The gastric contents are carefully swabbed away, and then the opening is looked for and secured so that no further extravasation is possible. If the ulcer can be easily reached it might be possible to excise it, but time must not be wasted on such a procedure, since the all-important part of cleansing the peritoneum has still to be effected. In early cases, however, where the peritoneum has been but little soiled, where the patient's general condition is good and the situation of the lesion is favourable, excision may be wisely undertaken. Whilst the stomach is open after excision it will be wise to explore its interior carefully so as to ascertain whether other ulcers exist, which could possibly be dealt with at the same time. In the majority of cases, however, excision is plainly not to be thought of, and the best that can be done is to tuck the edges of the opening well in and to secure the fold of serous membrane thus made by a double row of Lembert or Halstead sutures. One detail must not be overlooked in closing the perforation—viz., that if possible the stomach wall should be infolded so that the scar may subsequently lie in the transverse axis of the viscus and not in the longitudinal. This precaution is the more necessary as one approaches the orifices of the viscus, as the formation of longitudinal folds may mean such a diminution in the calibre of the organ as will subsequently lead to symptoms of stenosis. Should the tissues be friable and doubt exist as to whether they will hold, an omental graft may be taken and stitched in place over it. When the perforation is near the cardiac orifice this process of suturing may be very difficult and the surgeon should always arm himself with long-handled needles similar to those used for operations for cleft palate. Sometimes it is impossible to suture the opening and then a drainage-tube free from lateral openings should be introduced into the stomach and gauze must be carefully packed around it so as to shut off the rest of the peritoneal cavity and to determine the formation of a fistulous track which, if the patient survives, will quickly close. Should no opening be found on the anterior wall, the posterior should be examined; there is no difficulty in undertaking this if one divides between ligatures the gastro-colic omentum just below the great curvature of the stomach.

Having thus secured the opening in the stomach the cleansing of the peritoneum must next be effected. In early cases where there is but little peritoneal infection, as indicated by the absence of hyperæmia and lymph, it may suffice to swab the affected parts over with hot salt solution and not to undertake any general lavage for fear of carrying infective material into regions still unsoiled. But when there has been a good deal of peritoneal reaction general washing out of a most thorough type must be instituted. Warm salt solution containing one drachm to the

[4] Philadelphia Medical Journal, February, 1900.

pint of chloride of sodium and at a temperature of from 105° to 110° F. is employed and the parts are systematically dealt with. The most difficult region to cleanse is the under surface of the diaphragm, whilst one must not forget that septic fluids may track along the lesser omentum and passing back through the foramen of Winslow may infect the lesser peritoneal sac. Indeed, some surgeons recommend that this should be opened up and washed out in all cases. Wherever there is much exudation it is advisable to make a second opening above the symphysis pubis so as to enable the pelvic pouches to be cleansed and drained, whilst it may also be necessary to make counter-openings through each loin. In the simpler cases it is possible to dispense with all drainage except perhaps a small wick of gauze passed down to the site of the perforation and brought out through the top of the incision; but in the graver forms more elaborate precautions to free the interior of the abdomen from exudation must be undertaken. Gauze drains, and perhaps also a tube, should pass from the upper abdominal incision not only to the site of perforation but also towards either side. A tube should be introduced into Douglas's pouch through the suprapubic opening and if need be one or two strips of gauze upwards in front of, or amongst, the intestines; ordinary drainage tubes may be inserted through the counter-openings in the loins.

The after-treatment includes little that is peculiar. Shock must be combated by the use of hot rectal enemata, preferably containing hot coffee, strychnine may be administered hypodermically, hot bottles, &c., are applied to the extremities, and if need be saline infusion into the veins or subcutaneous tissues is instituted. As little morphia is given as is practicable, since it checks the excretory powers of the body and prevents peristalsis, thereby hindering intestinal movements and helping to induce meteorism. Feeding is entirely rectal and in order to maintain this for any time it is essential to wash out the rectum every day. Should there be much distension, turpentine enemata are most useful. The tubes may be dispensed with as soon as fluid secretion from the peritoneum comes to an end and if the case is going to do well—that will be in a day or two,—whilst the gauze plugs will remain for three or four days or perhaps longer, being replaced by much smaller ones when they are taken out.

4. A fourth complication which demands surgical treatment is one to which the stomach, as also any part of the intestinal tract, is liable whenever a chronic ulcerative lesion exists. The surface of the sore becomes invaded by organisms and this leads either to a gradual deepening of the ulcer so that neighbouring tissues become at first adherent to the outer surface of the tube and then in turn eroded or involved in a suppurative process, or else the bacteria are absorbed by the lymphatics of the part and an abscess not directly connected with the lumen of the viscus results. In this way one may get a *perigastric abscess* developed which sometimes contains gas and is in open communication with the stomach and hence when opened leads to a fistula, or a simple acute abscess forms containing merely pus which when opened is likely to close again without much difficulty granting that efficient drainage is established. Inasmuch as these localised abscesses are most likely to develop in connexion with a chronic ulcer, they are most usually found originating in relation with the posterior gastric wall; I have seen them several times, however, forming in connexion with the splenic end of the viscus and occasionally ulcers of the anterior wall extend in this fashion. The pus collects in immediate relation with the under surface of the diaphragm, constituting a subphrenic abscess and not infrequently the toxic material is absorbed by the lymphatics of the diaphragm and leads to an infection of the lower portion of the pleural cavity constituting a basal empyema. There is sometimes an actual breach of substance through the diaphragm and when the empyema has been opened there may be a fistulous tract leading from the stomach through the pleural cavity to the exterior and through this food may pass soon after its ingestion. In other cases the pus may track downwards, burrowing behind the peritoneum, and find its way to the surface through the lumbar region or even through the anterior abdominal wall just above Poupart's ligament. A little time back I had a somewhat puzzling case of this nature. A young woman who had been recently confined developed all the signs and symptoms of an acute abscess which threatened to point a little above Poupart's ligament on the left side. Naturally one thought in the first place of a pelvic cellulitis, but the pelvic viscera were normal on vaginal examination, the uterus was mobile, and the lochia had never been offensive. I opened the abscess through the anterior abdominal wall and a quantity of very offensive pus with some gas escaped. On introducing my finger it was obvious that the abscess tracked upwards behind and on the inner side of the descending colon and I could not reach the extremity of the pouch. Drainage was instituted and the patient recovered perfectly. There is but little doubt that this condition was the result of perigastric suppuration.

It is impossible to discuss here the symptoms and diagnosis of a subphrenic abscess, as that would require a lecture to itself. Suffice it to say that the clinical history is practically that of acute localised peritonitis with muscular rigidity of the abdominal wall over the focus of the mischief, whilst the physical signs vary according to whether or not gas is present. Drainage must be provided at the most accessible spot and, if need be, a counter-opening made, a proceeding often involving the opening of the pleural cavity.

5. Finally, complications necessitating surgical treatment arise as a result of the *contraction* which is always associated with the cicatrisation of ulcers. The cicatrix which follows an acute ulcer is usually small and puckered and sometimes so small and insignificant that it is difficult to find without very careful examination. Hence unless the ulcer has been actually placed within the pyloric orifice, it is unusual for it to cause many symptoms. The chronic ulcer, however, leads to a considerable amount of scarring and even whilst still unhealed may cause much contraction owing to the amount of infiltration. Consequently the shape of the stomach becomes very markedly altered, and in not a few cases obstruction to the complete emptying of the organ is caused thereby, as a result of which the food collects and undergoes fermentation, causing very unpleasant symptoms.

The most marked trouble arises from stenosis of *the pylorus* and this may be due to a general contraction of the orifice or to the scar of an ulcer on one side of it, the aperture being thereby made slit-like or triangular, or to the drag of an adhesion from without, especially if such comes from above and pulls the gut upwards, thereby kinking it. Not only, however, does the actual stricture of the orifice lead to symptoms but there is in many instances an added element of spasm, especially when the gastric secretion is extremely acid, so that although the stricture may be slight, the symptoms caused thereby are severe. The stomach becomes dilated to a degree proportionate to the amount of contraction, the food collects within and undergoes fermentation, often of a sarcinous nature, and then regurgitation of the contents occurs at intervals, the patient often ejecting a large quantity of fluid which is frothy and offensive.

When the cicatrix involves *the body of the stomach* it may cause considerable modifications of shape, but the most characteristic are those due to a scar forming along the lesser curvature and that resulting from a large transversely placed ulcer. In the former the two orifices are drawn together and the lesser curvature is diminished in length, so that the pylorus is dragged upwards. In this way the stomach is made to pouch downwards and it becomes much more difficult than usual for the organ to empty itself. Symptoms very similar to those of pyloric obstruction will result, but a diagnosis can easily be made by insufflating the organ and mapping out its shape. If the patient's nutrition is seriously threatened a gastro-enterostomy, arranged so that the lowest part of the pouch-like organ is connected to the jejunum, will give quick and effective relief.

The *hour-glass stomach* results from the contraction of a transversely placed ulcer of the body of the viscus. Any part of the organ may be affected, but the contraction is usually situated nearer the pyloric than the cardiac orifice. The symptoms in this case are very similar to those caused by simple pyloric obstruction, but the food is regurgitated at a rather earlier period, the quantity vomited is smaller, and there is not so much fermentation. Distending the organ with air will readily demonstrate its peculiar shape as well as indicate the relative size of the two pouches. A contraction nearer the cardiac orifice is associated with symptoms very similar to those of œsophageal stenosis, but a bougie passes quite readily for the 16 inches from the teeth which usually indicate that the end of the instrument has entered the stomach.

As regards the treatment of these conditions, it is obvious that very little other than gastrostomy can be done for those cases where the contraction is near to the cardiac orifice

owing to its inaccessibility. When the stomach is almost divided into two equal pouches it may be possible to divide the stricture longitudinally and to suture it transversely in the same way as the pylorus is dealt with in pyloroplasty; but such is not always feasible and, indeed, would often be insufficient. When the two pouches of the stomach hang down well below the contracted portion it may be possible to unite them by means of a Murphy's button, or even total excision of the stricture may be feasible. Failing any of these plans, gastro-enterostomy must be resorted to, but a double operation will be required in order to drain the two pouches. When pyloric obstruction exists treatment may be directed either to the pylorus, being more or less radical, or one may have to depend as a *pis aller* on gastro-enterostomy.

1. Pyloroplasty is a very simple procedure and should be very successful as an operation. A death-rate of 10 per cent. has been associated with it, but there is no reason why it should be so high. The immediate results of this procedure are often excellent, but there is a certain tendency for the orifice to re-contract, the percentage of which we cannot at present estimate. Well-marked limitations, however, exist to the utility of this operation. In the first place, it can only be undertaken in the absence of adhesions. Secondly, it is very difficult, or almost impossible, to open out and to suture up a very thick and indurated pylorus. Thirdly, if the stomach is much dilated and sags downwards the contents are likely to stagnate in the pouch thus formed and no improvement will follow. Again, whenever the motor power of the stomach is diminished pyloroplasty is of very little use. Finally, it must not be forgotten that occasionally duodenal ulcers coexist with the gastric variety and cicatrisation of these may lead to duodenal stenosis when pyloroplasty would be useless.

2. Pylorectomy is sometimes valuable in the removal of chronic ulcers involving the pylorus which has become hard and indurated. Formerly such a procedure was almost unjustifiable owing to the death-rate, but at the present time, granting that there are no serious adhesions, there is no reason why it should not be performed and with a high percentage of success.

3. Gastroplication is sometimes useful as an adjuvant to one or other of these proceedings. It consists in folding up the stomach wall and fixing it by a series of stitches so as to obliterate the pouch which always tends to form when pyloric obstruction exists.

4. Where, however, these procedures directed towards the pylorus itself are for one reason or another contra-indicated gastro-enterostomy must be relied on and the result will probably be most beneficial.

A CASE OF INTESTINAL OBSTRUCTION PRESENTING UNUSUAL FEATURES.

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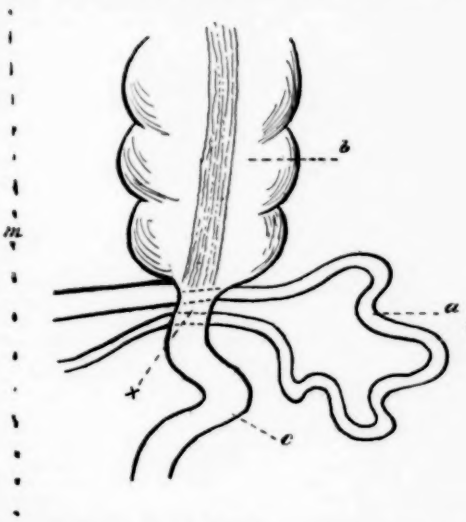
THE patient, a medical man, aged 63 years, gave the following history of previous illnesses. In 1898 he suffered from volvulus of the sigmoid flexure. A successful laparotomy was performed after symptoms of acute intestinal obstruction with great abdominal distension had existed nearly one week. His recovery was complete and he remained well until January, 1902, when a repetition of the first attack occurred, and after an illness of two or three days at the patient's request the same surgeon who had previously operated again successfully untwisted a volvulus of the sigmoid flexure and measures were said to have been taken to prevent a recurrence of the condition. A perfect recovery was made but a little suppuration in the wound delayed healing.

With regard to the present illness, Dr. A. E. House asked me to see the patient on May 9th, 1903. He was a well-preserved man of sound constitution. He complained of spasmodic pain referred to the centre and left lower region of the abdomen. He lay on his back keeping quite quiet and the intervals of comparative freedom from pain were becoming of shorter duration. Symptoms of abdominal mischief had existed for 36 hours and no action of the bowels and no passage of flatus had occurred during this time. The pulse was 80 and the temperature was normal. The tongue was moist; there were nausea and anorexia but no vomiting. He did not look very ill but asked for an immediate operation, an ordeal which he apparently regarded with perfect equanimity. On examination the abdomen was rather distended but moved with respiration, and there was an absence of rigidity of the muscles except in the left iliac region where some tenderness on palpation was observed. A scar in the linea alba indicated the site of the former cœliotomies.

Operation was arranged for and took place the same day. Under A.C.E. anæsthesia the abdomen was opened in the mid-line. There were several omental and intestinal adhesions along the line of incision. Some collapsed small intestines were at once met with, but everywhere the peritoneum was of normal appearance. Whilst examining the small intestines for an obstruction above the collapsed coils an enormously dilated descending colon presented itself. The dilatation of the colon ended in the sigmoid flexure, encircling which, on a level with the sacro-iliac synchrondrosis, a tight band-like structure could be seen and felt. The colon and rectum below this point were quite empty. The distended gut was punctured with a trocar and cannula, allowing the escape of a large volume of gas and quickly deflating it to reasonable proportions; on withdrawing the cannula the puncture was secured with a few Lembert's sutures of fine silk. The tight band-like structure constricting the sigmoid flexure proved to be a piece of small intestine which, passing from the right beneath the sigmoid flexure, turned sharply in front of that structure and could then be traced to the abdominal wall near the line of my incision where it was firmly adherent to the parietal peritoneum. After dividing the organised adhesions between the parietes and encircling loop of small intestine by gentle traction towards the middle line I was enabled to withdraw several feet of intestines which had passed beneath the sigmoid flexure—i.e., through the meso-sigmoid. No obstruction of bowel then remained and that portion of small intestine which had previously collapsed at once resumed nearly its normal calibre. Nothing more was done except to close the abdomen as the patient had by this time been sufficiently long on the table. Recovery was quick and complete.

Acute strangulation of bowel by its passage through holes in the mesentery is a well-known condition and strangulation by knotting of the ileum with the sigmoid flexure and herniæ into the fossa intersigmoidea have been recorded, but acute



intestinal obstruction following the passage of small intestines through the sigmoid mesocolon has, I think, been seldom encountered, so that the present instance of this condition is perhaps worthy of record. The condition and its mode of origin are indicated in the accompanying figure. *b* is the dilated colon, *c* is the empty sigmoid flexure and rectum, and *a* is a coil of small intestine which has passed

behind the sigmoid flexure—i.e., through the mesosigmoid at x. This coil of small intestine, finding insufficient room towards the left, turned again towards the middle line in front of the sigmoid flexure, contracting adhesions to the parietal peritoneum near to, or at the line of, the previous laparotomies. It will therefore be seen that the coil of small intestine not merely passed beneath but formed a complete and fixed loop round the sigmoid flexure. This condition of potential danger must have existed for some time, since the adhesion between the constricting loop and the parietes was one of well organised tissue. We have only to invoke some vigorous peristaltic action with, perhaps, some flatulent distension of the colon and it becomes easy to imagine the supervention of acute obstruction. In conclusion, I wish to add that the successful issue of this case must be entirely attributed to the early diagnosis of intestinal obstruction and determination for operation arrived at by both the patient and Dr. House who first saw him.

Torquay.

OBSERVATIONS ON MASTICATION.

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II.[1]

CHANGES WHICH THE JAWS AND TEETH OF MAN HAVE UNDERGONE DURING MAN'S EVOLUTION FROM HIS ANTHROPOID ANCESTORS.

DURING man's progress upwards from the anthropoid his diet has undergone a progressive change and a parallel adaptation has taken place in his jaws and teeth. Dietetically considered we may divide his evolutionary career into the following epochs[2]: (1) the anthropoid stage; (2) the pre-cooking human stage; (3) the cooking pre-agricultural stage; (4) the early agricultural stage; and (5) the late agricultural stage.

1. *The anthropoid stage.*—The diet of man's anthropoid ancestors was probably much the same as is that of existing anthropoid apes; it consisted, namely, of raw vegetable and animal food, necessitating a vigorous use of the maxillary apparatus. This latter we may assume was of the type belonging to the anthropoids—i.e., the jaws were massive and markedly prognathic; the denture was the same as it is in existing man, but the teeth were larger, especially the upper canines, which served as weapons of offence and defence; the third molars (the wisdom teeth) were as large as the other molars and were provided with three fangs, and there was an ample portion of alveolar ridge behind them; there was no chin. No doubt the massiveness and the marked prognathism which characterised the jaws at this stage served other ends than that of mastication; it is obvious that projecting jaws and teeth are much more effectual for seizing and lacerating prey than are the orthognathic jaws of modern man.

2. *The pre-cooking human stage* extends from the time man's ancestors first assumed the human form till they learned to apply fire in the preparation of their food. During all this period the jaws and teeth were probably used as much, or almost as much, for mastication as during the anthropoid stage; raw animal food had to be torn from the bones, the latter had to be crunched, while the bulk of the raw vegetable food needed then no less than it needs now prolonged and vigorous mastication in order to liberate the starch and other nutritive ingredients from their undigestible cellulose envelopes.[3] Nevertheless, the jaws and teeth underwent considerable change during this period, for not only were they with every advance in intelligence called less and less into requisition for purposes of offence and defence, but the jaws, at least, became materially modified in correlation with the expanding cranial cavity and in connexion with the assumption of the erect posture. It is, I think, rather for these reasons than in consequence of alterations in the nature of the food that the masticatory apparatus now gradually lost its more bestial aspect and assumed an essentially human type, becoming towards the close of the period much the same as may be observed among the most primitive peoples now living.

3. *The pre agricultural cooking period.*—The characters of the maxillary apparatus belonging to this period are still available for study, the aboriginal Australians, the Bushmen, Negritos, and many Esquimaux not having yet emerged from it. So far as mastication is concerned, cooking influences vegetable far more than animal food, for it not only softens it but by rupturing the undigestible cellulose chambers and liberating their contents relieves mastication of one of its essential functions. Wherefore with the advent of cooking man's jaws and teeth began to get smaller and they have continued to diminish in size up to the present time. No great diminution, however, took place at first, inasmuch as the diet still continued to be largely animal (and prior to the use of knives and forks such food had to be torn by the teeth), while the coarse vegetable food of this date, even when cooked, still needed laborious mastication. The chief differences between the maxillary apparatus of this early cooking age as compared with that of the present day are as follows: the jaws of the earlier period—e.g., in the aboriginal Australian—are more massive and their sagittal diameter is greater, giving rise to decided prognathism, the teeth for the most part are larger and stronger, the third molars being nearly, if not quite, as big as the other molars and provided with three fangs, while there is a considerable portion of alveolar ridge behind them. The third molars, however, show a decided tendency to be smaller than the rest and the alveolar ridge behind them is less marked than in the previous period, features, I doubt not, attributable to the influence of cooking in diminishing mastication. Dental caries is rare and is chiefly met with in the third molars.

4. *The early agricultural age.*—All the existing primitive races which have attained to the cultivation of the soil may be regarded as belonging to this period. Previously to it man was mainly carnivorous, owing to the comparatively limited quantity of vegetable food available so long as the supply was left to nature alone, but when by cultivation this supply was increased and at the same time rendered more constant and certain he gradually became less carnivorous and more vegetarian in his diet. The result of agriculture, however, is not only to increase the supply of vegetable food but to diminish its fibrous, cellulosic ingredients and thus to render it more easily masticated. Hence at this stage we find the maxillary apparatus becoming smaller than in the previous period, although the difference as shown—e.g., by the examinations of the skulls of the African negroes and the Melanesians—is less pronounced than we might perhaps have anticipated; prognathism is not so decided, the jaws are smaller, also the teeth, especially the third molars, which now for the first time show a tendency to be furnished with two instead of three fangs, while the alveolar ridge behind them is distinctly shorter than in the preceding period. Dental caries, hitherto rare, now becomes more frequent.

5. *The late agricultural period.*—A mid-agricultural period might be described, but I shall take no account of it here but pass on to a consideration of the late agricultural period—that, namely, in which we ourselves live. The chief characteristic of the food of this period is its softness. Cooked animal food requires, indeed, more mastication than raw, but the vegetable food of to day, owing to the combined effects of improved agriculture and skilful milling and cooking, is so soft as to excite comparatively little mastication. The present may, in fact, be described as the *age of pap*. Hence the jaws and teeth are now called upon to perform far less work than in any earlier stage of our evolution and there has taken place in consequence a great diminution in their size, more especially in the size of the jaws, so that there is now often no room for the teeth to take up their normal positions and there is generally a complete absence of alveolar ridge behind the last molars. The latter are, moreover, apt to be very small or even absent, while dental caries is alarmingly frequent.

It will thus be seen that from the period of the anthropoids to the present time a progressive change in the size and shape of the jaws and teeth has been taking place, a change which is to be explained by (1) the cessation of the need for using them for offensive and defensive purposes; (2) the growing capacity of the cranium and the assumption of the erect position; (3) the progressive alteration in man's diet; and probably also (4) considerations of beauty. The first

[1] No I. was published in THE LANCET of July 11th, p. 84.

[2] This subject I am obliged to deal with very briefly and am compelled to omit the reasons for my conclusions.

[3] Recent observations go to show that man possesses no power of digesting cellulose, though this substance is to a limited extent capable of solution by the agency of bacteria in the lower portions of his alimentary canal.

three factors have operated through natural selection, the last through sexual selection, which has come into play, I would suggest, chiefly within recent times. Probably the most pronounced change which has taken place in the jaws during the agricultural periods has been the suppression of prognathism which, in the woman especially, is very unsightly and tends to diminish the likelihood of marriage.

INSTANCES OF THE VIGOROUS USE TO WHICH THE JAWS AND TEETH ARE PUT AMONG EXISTING PRIMITIVE PEOPLES.

A study of existing primitive peoples brings forcibly home to the mind how laboriously the jaws and teeth of our primitive ancestors were used. I have already shown how in pre-agricultural and early agricultural times the nature of the food compelled a sustained and vigorous exercise of these structures and I wish here only to refer to a few specific and peculiar instances of laborious mastication exercised by primitive races now or recently living.[4] Among some of these mastication has been promoted almost to the position of an industrial art.

The chewing of very tough substances in order to extract therefrom liquid or nourishment.—The recently extinct Tasmanians included among their articles of diet a species of sea-weed which even when cooked was so tough as to require long-sustained mastication in order to extract its nutrient elements. The Indians of North California chew kelp which is "as tough as white leather" (i.e., leather dressed with alum). "A young fellow with good teeth will masticate a piece of it a whole day." Again Featherman[5] tells how when the Bushmen are short of food in the winter they steep an old dried gnu-skin in water and, having rubbed off the hair, boil it and proceed to gnaw the tough morsel until their very jaws ache. The Modoc Indians are said to munch the raw kals root all day long.[6] Among the Esquimaux it is a universal custom to chew the raw skin of the whale, the porpoise, and the seal for the blubber it contains, and the skin being as tough as india-rubber it requires, as may be imagined, a good deal of chewing. The Lower Californians also chew deer-skin and ox-skin (Bayert). The more southern Esquimaux, according to Nansen, preserve the stalks of *angelica* by steeping them in a mixture of chewed blubber and saliva. Finally, I may refer to the habit of chewing the sugar-cane, a practice which is prevalent among the natives in all countries where the cane grows and affords, it need scarcely be said, abundant exercise for the jaws and teeth.

Mastication in the preparation of beverages.—I find that among widely separated aboriginal peoples chewing is resorted to in the preparation of beverages, both intoxicating and non-intoxicating. The Gran Chaco Indians make an intoxicating drink by chewing the algarroba bean and then spitting into a receptacle. In other parts of South America berries are chewed with the same object. In some of the Pacific Islands boys and girls with good teeth are selected to chew a root (kava) from which they then prepare a drink. In New Guinea drinks are similarly prepared from roots. Boiled cassava root is chewed by the Indians of Nicaragua for the same purpose. In British Guiana the natives make a drink by adding chewed maize and saliva to sweet potato, maize, and sugar-cane. The Indians in Honduras, after steeping cassava cake or carbonised bread in hot water, chew a portion and mix it with the rest.

Mastication in the industries.—Even among moderns teeth are used for many purposes other than mastication—e.g., for holding pins and needles and for severing cotton; also in some industries—e.g., among diamond workers—where it is the custom for girls to hold the diamond between their front teeth, which in consequence get much worn away, as I have myself seen. It is only among primitive peoples, however, that the jaws and teeth actually play the part of implements for use in the arts. The Australian women make lines, nets, and bags by chewing various kinds of fibre, a process which wears down their teeth considerably and may cause them to be tender.[7] The Esquimaux are still more dependent upon the use of their teeth as implements, especially in the preparation of skins for their clothing, boats, and lines. The teeth are used to hold the skins while the latter are being scraped, the mouth constituting in fact "a third hand," and the front teeth of Esquimaux women are often by this means worn away to the merest stumps.[8] The garments of the Esquimaux even to the boots are made up of skins which have been laboriously chewed for this purpose by the women "inch by inch" till they acquire a beautiful softness and flexibility and are often indeed chewed again after having been dried. And we are told that the women have no objection to the task, while the children are eager to help in it on account of the blubber the skin contains; also, that in bad times the men do not object to join in the work. The lines for harpooning are prepared in a similar way from the skin of the bearded seal and in very large quantities.[9] When we think of the quantity of skins needed for these lines, for their dress, including boots and gloves, and for their boats (although for the latter some skins are used without having first undergone chewing), it is clear that enormous quantities must be chewed. The Esquimaux men also use their teeth considerably in other work—e.g., in lashing the sledges together.[10] The Indians of North California use their teeth for stripping the bark from the fresh shoots employed in making their wickerwork utensils and they also employ their teeth in making strings, cords, and nets.

THE INSTINCT TO MASTICATE.

Seeing that the maxillary apparatus of man has for long ages past been put to vigorous use it is not surprising that the need to exercise it should express itself as a powerful instinct. This instinct manifests itself in many and curious ways, some of which I will now consider. During the early months of life the natural function of feeding at the breast provides the infant's jaws, tongue, and lips with all the needful exercise. This bottle-feeding fails to do, and we frequently find bottle-fed children seeking to satisfy the natural instinct by sucking their thumb, fingers, or any convenient object to hand. The teeth are a provision for biting hard foods but even before they actually appear we find the child seeking to exercise his toothless gums on any hard substance he can lay hold of, and there can be no doubt that exercise of this kind tends to facilitate the eruption of the teeth, a truth, indeed, recognised universally, whether by the primitive mother who strings the tooth of some wild animal round the neck of her infant, or the up-to-date parent who provides her child with a bejewelled ivory or coral bauble. When the teeth have erupted the masticatory instinct finds among primitive peoples abundant satisfaction in the chewing of the coarse, hard foods which constitute their dietary; but among us moderns, subsisting as we do mainly on soft foods, affording but little exercise for the masticatory apparatus, it does not find its proper expression, and thus tends to die out. Nevertheless, it dies a hard death and long continues to assert itself; witness the tendency of children to bite their pencils and pen-holders; I have known a child to gnaw through a bone pen-holder, much in the same way as a carnivorous animal gnaws at a bone.

This instinct to chew for chewing's sake manifests itself all over the world. In our own country not only do children bite pencils and pen-holders but they will chew small pieces of indiarubber for hours together. The practice of gum-chewing, so common among our American cousins, evidently comes down from far-off times, for the primitive Australians chew several kinds of gum, attributing to them nutrient qualities,[11] and the Patagonians are said to keep their teeth white and clean by chewing *matri*, a gum which exudes from the incense bush and is carefully collected by the women and children.[12]

A widespread custom in the East is betel-chewing which is met with in India, Malay, Melanesia, and Polynesia, and even among the primitive Veddahs of Ceylon. This article is composed of the pungent leaf of the betel plant, the areca nut and lime rolled together, and when chewed yields a reddish juice which stains the mouth and teeth. The Veddahs, failing to get the genuine article, manufacture a quid from the leaves of an aromatic plant, the barks of one or two kinds of tree, and calcined small shells.[13] The compound must possess some strange attraction, for otherwise such pains would not be taken to secure it. What is the

[4] I am under great obligation to Miss Eva Dunn, who has collected valuable information for me on this and kindred subjects.
[5] Social History of the Races of Mankind, 1881.
[6] S. Powers: Tribes of California, 1877.
[7] E. M. Curr: The Australian Races, 1886-7. Taplin: The Narrinyeri; an account of Tribes of South Australian Aborigines, 1879.
[8] J. F. Nansen: Eskimo Life. 1893.
[9] Dr. Kane: Arctic Exploration. 1854.
[10] E. Astrup: With Peary near the Pole. 1898.
[11] Sir George Grey: Journal of Two Expeditions in North-West and Western Australia, 1841.
[12] Muster: With the Patagonians. 1869.
[13] Bailey: Transactions of the Ethnological Society. 1862.

attraction? Doubtless betel has stimulating properties and it must, moreover, be remembered that the mere mechanical act of mastication stimulates the circulation, a fact which helps to explain the tendency for man, all the world over, to chew non-nutrient substances. Tobacco-chewing is common in many parts of the world and here, again, the effect for the time is stimulating. Pitcherie is extensively chewed among the aboriginal Australians; it consists of twigs of about the thickness of rye-grass stems, which are first chewed into a mass, then mixed with the ash of gum trees, and made into a paste which is chewed for its stimulating and narcotic effects.[14]

I may allude in passing to the grinding of the teeth which takes place during sleep in disturbed states of the nervous system. It is a true masticatory act in which the normal lateral movement of the mandible is well marked and it may thus be regarded as a perverted manifestation of the masticatory instinct.

THE CAUSATION OF INEFFICIENT MASTICATION.

The effects for good upon the organism of efficient mastication being profound and far-reaching it follows that inefficient mastication must lead to many evils. What these are we have now to consider, but first it will be well to inquire into the causes of the defective mastication which prevails among moderns.

1. *Softness of food.*—By far the most important of these lies in the nature of the food taken. The food of to-day—of the late agricultural age period, as I have termed it—is for the most part soft and pappy, of a kind which does not compel thorough mastication; so much so indeed that, as I have already said, we may speak of this as the age of pap. This feature is especially noticeable in the case of children's diet: under the modern system children are kept on a liquid, or semi-liquid, diet not merely during the first months but during the first years of life, and at the seventh or eighth month all kinds of artificial saccharide foods in liquid or semi liquid form are poured into the child's stomach; thereafter he is fed on such viands as mashed potatoes and gravy, rusks soaked in milk, milk-puddings, bread dipped in bacon fat, pounded mutton, thin bread-and-butter, and the like; and we are told that this is the kind of diet best suited to the young human, from the time of weaning to the end of the second year! The same pernicious methods are adopted subsequently. "Perhaps the great majority of children after they have got their complete set of temporary teeth have," writes Dr. Sim Wallace,[15] "a dietary such as the following. Breakfast: bread-and-milk or porridge, milk, tea, coffee, or cocoa, bread-and-butter, perhaps an egg. Dinner: potatoes and gravy, or meat, milk pudding. Tea: milk or tea with bread-and-butter, jam, cakes. Supper: bread or biscuit and milk." Now food of this kind does not invite mastication and it finds its way into the stomach all too readily. Hence the instinct to masticate has little opportunity of exercise and not being properly exercised tends, as I have said, to die out. Small wonder that the child nourished on such pappy food acquires the habit of bolting it and learns to reject hard, coarse foods in favour of the softer kinds; everything nowadays must be tender, pultaceous, or "short." Given a choice between a food compelling little or no mastication and one necessitating prolonged mastication—as between, say, fresh Vienna bread and an Abernethy biscuit—and in 19 cases out of 20 the one which gives the least trouble in eating will be chosen. To such absurd lengths has this harmful custom been pushed that even bread-crust is avoided by many. Witness the fashion of eating bread-and-butter with a minimum of crust; order bread-and-butter at any place of refreshment and the last thing you will be served with is a plateful of crusts of bread. Many establishments, indeed, make a regular practice of giving away their crusts as unsaleable. Thus, the rectangular loaves used for bread-and-butter in the "Aerated bread shops" are cut transversely into slices, each loaf thus yielding two end crusts which are put into baskets for the poor, only the soft crumby pieces being reserved for the customers, to be in due course no doubt washed down by copious libations of tea and coffee.

When we trace the diet of the modern from childhood upwards we find the same story: it tends to remain soft and pappy to the end. Animal food, especially as it comes to the tables of the well-to-do, necessitates very little mastication. It is the coarser varieties of vegetable food alone which call out the full functional activity of the masticatory apparatus, but the vegetable food of to-day is rarely of a kind to do this; cooked vegetables, such as potatoes, greens, peas, and beans, can be, and generally are, swallowed after little or no preliminary mastication, and our flour is so carefully deprived of its fibrous portions and so cunningly dealt with in the bakehouse and kitchen in the making of bread, cakes, and pastry which shall eat light and short that these articles get very little chewing; while such vegetable products as rice, vermicelli, tapioca, and macaroni are, as served at table, so soft that they slip down into the stomach almost as readily as simple milk. Let anyone run through his dietary of any one day and he will realise how very little work his masticatory apparatus is called upon to perform. It will read something like the following. Breakfast: porridge and milk, eggs, bacon, bread, and marmalade. Lunch: fish, tender meat, boiled vegetables, bread, some "sweet," and cheese. Tea: bread, butter, and cake. Dinner: much the same as lunch. What opportunity, I ask, does such a bill-of-fare afford for the development of teeth and jaws and for the proper functional activity of the salivary glands?

2. *Defective masticatory apparatus.*—Another potent cause of inefficient mastication is some defect in the masticatory apparatus and defects of this kind are very common in those who have not been accustomed to masticate thoroughly in early life. Foremost among these are irregularities of the teeth leading to faulty "bite" and caries of the teeth which causes them to be tender or to break away, if it does not lead to their actual extraction. Mastication cannot be thorough where the bite is defective, for this not only leads to imperfect opposition of the upper and lower teeth, but renders the lower ones incapable of that ample lateral movement against the upper which is needful to normal mastication.

3. *Idiosyncrasy.*—Some are temperamentally more disposed to hurry over their meals than others. The katabolic, restless, nervous individual is more apt to swallow his food hastily than is his more deliberate and phlegmatic brother. Individual differences in this respect are even observed among the lower animals. Thus, one of a pair of horses of about the same age and build is nervous and excitable and inclined to bolt its food, while its companion of more stolid temperament is a thorough and efficient masticator. The former shows comparatively little wearing down of the teeth and often suffers from indigestion, a large portion of corn grains passing through his digestive canal intact; in the latter the teeth are well worn, indigestion never occurs, and but very few grains pass through the digestive tract unchanged. It may be objected here that we cannot help temperament and to a large extent this is true, but much can be done towards modifying it, and it is something to know where dangers, temperamental dangers among others, lie.

4. *Circumstances of life.*—Again in this hurrying, strenuous age people are much less deliberate than in the easy, slow-going days of long ago. A meal is too often regarded as something to be got through quickly, as taking up time which might be devoted to something more profitable. Especially is this true of breakfast and lunch; it is no uncommon thing for a business man to hurry through his breakfast in a few minutes preparatory to rushing off to his train, and his lunch as likely as not is as hastily swallowed in his office or at a bar. Tradesmen are apt to take their meals in mere snatches; apprentices, shop girls, and other "hands" are often not allowed sufficient time for their meals; while, to come to the professions, we all know how the busy medical man, for instance, is often obliged to take a hurried snack in the short intervals between seeing his patients. No wonder that thus circumstanced people acquire the habit of bolting their food. A meal should be regarded as an end, and an important end, in itself. It should be taken at leisure, body and mind being for the time being given up to it and to agreeable social intercourse. If this rule were always observed a most important source of inefficient mastication would be removed.

(To be continued.)

[14] E. M. Curr: The Australian Race. 1886-87.

[15] The Causes and Prevention of Decay in Teeth, pp. 88, 89. London, 1902.

AT the quarterly meeting of the directors of the Naval Medical Supplemental Fund held on July 14th, Sir J. N. Dick, K.C.B., in the chair, the sum of £50 was distributed among the several applicants.

THE SELECTION OF CASES SUITABLE FOR THE NAUHEIM TREATMENT OF CHRONIC AFFECTIONS OF THE HEART.

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MEDICAL EXAMINER TO THE TECHNICAL EDUCATION BOARD OF THE LONDON COUNTY COUNCIL.

THROUGH the kindness of the Editors I was enabled to publish in THE LANCET of March 21st, 1903, an article in which I endeavoured to give so detailed an account of the method of administering the Nauheim treatment for chronic diseases of the heart as to enable those who had never carried it out before to do so with every chance of a successful result. My paper was based on my experiences of the administration of the treatment at Llangammarch in 1895 and in London during the last seven years, in which time I had found that certain modifications of the methods in common use at Nauheim were necessary to insure satisfactory results in England. Having received letters of inquiry from medical men who have read my paper, I am encouraged to treat briefly a branch of the subject not dealt with therein, hoping that my conclusions may be of some use to those who are interested in the subject. The selection of suitable cases for treatment by the Nauheim methods is of vital importance, as there is no doubt that to treat thus every sufferer from chronic heart disease, irrespectively of degree or kind, is most unwise. That the baths have a wide field of usefulness makes it all the more likely that unsuitable cases should sometimes be treated and it is for this reason that I propose to give, as briefly as possible, my experience of the kind of cases that derive benefit from them and of those that do not, giving at the same time two widely differing illustrative examples of the former class. It is not easy to draw a definite line between these two classes, as the question of suitability for the Nauheim treatment is in most cases, though not in all, one of degree of the disease rather than of kind; but one may, for the purposes of this paper, divide cases of heart disease into four groups: (1) those which will be cured or benefited very greatly by the treatment; (2) those which cannot be cured but can be greatly benefited; (3) doubtful cases; and (4) unsuitable cases.

1. *Those cases which will be cured or benefited very greatly by the treatment.*—Of this group the dilated, enfeebled, and irritable heart, a sequela of influenza, is one of the most promising, and it is also one that, in many instances, resists treatment by drugs, rest, or change of air, so that the unfortunate sufferer often becomes a chronic invalid with nothing but a broken and almost useless life to look forward to. It is no exaggeration to say that the Nauheim treatment often gives a new lease of life to these cases, though if they are of a severe type they may require two, or even three, courses, at intervals of from nine months to a year, to restore them to health. An example of the influenzal heart treated by the Nauheim methods is given below in Case 1. Another class of case which belongs to the first group is that of the dilated and enfeebled heart produced by the raised arterial tension present in the circulation of patients suffering from rheumatic or gouty diatheses. This slowly but continuously acting pressure produces in time an overloaded and overworked heart, and thereby an increasingly impure blood-supply and a progressive weakening of the cardiac systole. It is almost impossible to cure these cases absolutely and permanently; the very fact that the poison is manufactured in the system and can only be eliminated by a most careful diet and well-regulated life often leads to a recurrence of the heart symptoms in time and makes it almost a necessity that the patient should undergo a course of treatment regularly every 12 months for two or three years and then perhaps every second or third year. This no doubt sounds an arduous task, but when it is remembered that it often converts this class of case from permanent invalidism to a condition of good health and full enjoyment of life it cannot be so regarded and it is my experience that the second course generally produces a more marked and lasting improvement than the first and the third a still more satisfactory result. There is no greater mistake than to lead these people to believe that one course will cure them completely, though young patients suffering from mild forms of rheumatic and gouty hearts, without valvular disease, will often remain in good health for several years after a single course, especially if a careful dietary and habit of life are followed. Cases of cardiac enfeeblement from excessive smoking and prolonged illnesses, such as typhoid fever and malaria, belong also to this group, the Nauheim treatment being in these cases a most valuable aid to such methods of cure as rest, tonics, and change of air, and producing a much more rapid return to health than could otherwise be expected.

2. *These cases which cannot be cured but can be greatly benefited.*—In this group may be ranked cases both of rheumatic and gouty origin, in which the valves have been permanently injured, and signs of commencing cardiac failure, such as headache, shortness of breath, palpitation, cyanosis, and pain, are present. It is self-evident that patients of this class cannot be cured and that one course of baths will not produce a permanent improvement, but it will undoubtedly produce a much more lasting and satisfactory one than any other treatment. Case 2 illustrates the benefit received from the treatment by a patient suffering from a gouty heart with injured valves.

3. *Doubtful cases.*—Among these should be classed a large number of the more advanced forms of valvular affections, whether the result of gout, rheumatism, or other diseases, in which the recuperative powers have been undermined by climatic effect, habits of intemperance or prolonged illness, and the patient is losing ground. That the treatment should be tried in many of these cases, when all other methods have proved ineffectual, is only fair to the patient, but it is of great importance that it should be administered by one who is thoroughly conversant with it, because the smallest details, such as one or two minutes too long in the bath, a degree or so variation in the bath temperature, or a little increased resistance in the exercises, may make all the difference between success or failure in benefiting the case. In this treatment, as in all others, even the most careful physician will have unsatisfactory cases in which no marked improvement is produced, but judicious selection and careful attention to detail will reduce these to a very small percentage of those treated. It is, in my opinion, decidedly dangerous for any individual, however skilled and fully trained, except a qualified medical practitioner, to undertake the administration of the treatment.

4. *Unsuitable cases.*—Authorities differ greatly as to the nature of the cases that should be included in this group. My experience of the treatment leads me to believe that the following are unsuitable. Patients who are, and have been, habitually heavy drinkers, those whom one believes to be suffering from syphilitic affection of the heart, those suffering from marked degeneration of the vessel walls, those exhibiting typical symptoms of aortic regurgitation, and very old people. The chronic heart case usually met with in hospitals, broken down by a long struggle to work when unfit and accustomed to bad and often insufficient food, is also one of the most unsatisfactory for the Nauheim treatment. In conclusion, I would say that a fortnight or three weeks' change of air after a course of baths materially increases the benefit obtained; but it is not possible to lay down any universal rule as to the place best suited to the patient, age, extent and kind of disease, and personal idiosyncrasies guiding one greatly as to the choice of locality.

CASE 1.—The patient, an unmarried woman, aged 29 years, was strong and well till after her first attack of influenza in the winter of 1890, after which she began to suffer from lassitude, incapacity for exertion, coldness of the extremities, even after forcing herself to take a sharp walk, shortness of breath, severe headaches, and pain over the region of the heart. She was treated with various tonics and change of air, but remained a chronic invalid until August, 1900, when she had another severe attack of influenza while away on a visit, for which she was attended by Dr. Esther Colebrook of Peppard Common. Dr. Colebrook told her she had a dilated heart and during her convalescence gave her a course of Swedish exercises which did her so much good that she remained in fair health till August, 1901, when the severe headaches, shortness of breath, and cardiac pain began to return. She was treated for these at home for seven weeks, but as in that time there was no marked improvement she consulted me and took a six weeks' course of Nauheim baths and exercises under my care. When I first saw her she was suffering from shortness of breath, her lips

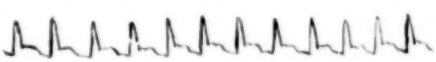
were markedly cyanosed, her hands were blue and cold, and her pulse was small, of high tension, and regular in volume and time, about 90 beats per minute. Her heart was greatly dilated, the first sound was very faint and the second was accentuated, and she had a loud systolic basic murmur. After a fortnight's treatment the murmur had disappeared and she felt and looked much better. At the end of the six weeks' course she had lost all pain and other distressing symptoms, could take a good long walk with enjoyment, and was of a much better colour. I have seen her several times during the last 17 months, during which period she has enjoyed good health and has been able to resume her work, and to live an ordinarily active life. At the beginning of this year she caught a severe chill which was followed by some recurrence of cardiac pain and breathlessness, but this passed off under a short course of cardiac tonics. She was not in bed for a single day whilst taking her course of baths and exercises. Below I give sphygmographic tracings of her pulse before and immediately after treatment, and also those taken respectively one year and 17 months later, by which the maintained improvement is well illustrated. It will be seen from these that the improved condition of the heart has been fairly well maintained throughout this period, and in this case, I believe, a second course of treatment would cure permanently.

FIG. 1.

Nov. 7th, 1901. Pulse tracing before treatment.

Dec. 7th, 1901. Pulse tracing after treatment.

Dec. 19th, 1902. Pulse tracing one year after treatment.



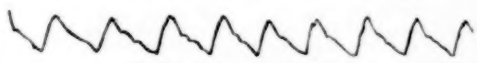
May 19th, 1903. Pulse tracing 17 months after treatment.

CASE 2.—The patient, a man, aged 60 years, first felt ill and not up to his work in September, 1897. He consulted Mr. H. D. Senior of British Columbia who informed him that his heart was greatly dilated and advised him to return home to England and to consult a medical man there. He returned to England but, not wishing to discontinue work, did not consult anyone till November, by which time he felt worse and was troubled a good deal by an intermittency of the heart's action. He then went to see the late Dr. Gifford Ransford who gave him a course of Nauheim baths in London in November and December, 1897. These benefited him so greatly that his heart did not trouble him again till September, 1898, when the intermittent action returned and he became subject to attacks of faintness, for which he consulted Dr. Frederic Thorne of Leamington Spa, who early in 1899 gave him another course of baths. These enabled him to continue work with comfort until March, 1900, when the symptoms again returning he consulted me. I found him to be suffering from a greatly dilated and somewhat hypertrophied heart; the sounds were very faint and the apex beat was just palpable. At the apex was heard a systolic murmur which was conveyed into the axilla, and a murmur of similar time, but distinct and somewhat localised, was heard over the aortic area. The vessels were not apparently atheromatous. He was undoubtedly suffering from aortic stenosis and mitral regurgitation. His pulse was small, of increased tension, and was at times intermittent. He complained of an increasing feeling of inability to do his work, a distressing consciousness of the intermittent heart's action, and attacks of faintness. I ordered a third course of baths and have since then given him two others. During this time he has been practically free from his heart symptoms and intermittence except for a short time before his second course under my care, and he has been able to continue a very active and energetic life. I give below sphygmographic tracings of the pulse before and after his first course under my care in 1900, before and after his third course in 1902, and one taken 11 months later. From these it will be seen that the pulse was greatly improved by the first course in 1900 and continued to maintain a great deal of this improvement. The pulse tracing taken 11 months after the last course shows this maintained improvement well. The tracings of cardiac dulness showed a marked diminution of

FIG. 2.

March 3rd, 1900. Pulse tracing before treatment.

November, 1900. Pulse tracing after first course.



Pulse tracing before third course.

Pulse tracing after third course.

Pulse tracing 11 months after last course.

dilatation after each course of baths and a decreasing tendency to relapse. This progressive improvement is well shown by comparing the tracing taken before the third course of baths in London with the tracing taken in November, 1900, before his second course of baths under my care. The cardiac dulness in May, 1903, 14 months after treatment, was practically normal, being almost similar to the tracing taken directly after the last course, and the patient was then in excellent health.

Inverness-terrace, W.

THE CHLOROFORM HABIT ACQUIRED BY A HYSTERICAL WOMAN RESULTING IN DEATH.

BY E. PERCY COURT, M.R.C.S. ENG., L.R.C.P. LOND.

As the following case must be an unusual one, especially in the class of life in which the patient lived, I venture to think that these notes will be of interest.

A single woman, aged 42 years, a pauper patient, came under my care with the following history. She had been bedridden for about 18 years. The symptoms complained of were hæmorrhage from both ears, cough, hæmoptysis, general pain, and sleeplessness. She had suffered from acute rheumatism about 20 years previously which had left her heart weak. On inquiry from those who had known her before this illness came on I elicited the fact that she was always a very nervous and hysterical girl. The patient presented a most extraordinary appearance. She was usually propped up in bed and round each eye, involving both the upper and the lower lids, there was a black ring, giving the appearance of two black eyes which I discovered was skilfully produced by paint. She always had a handkerchief tied round her head and one or both ears plugged with cotton-wool, which was invariably blood-stained, with blood trickling down her cheeks. There was always a bowl well filled with blood-stained sputum placed in a prominent position, so that it could be seen by all who came into the room. By her bedside was a table well stocked with bottles of

koumiss and other foods and numerous bottles of quack medicines and other drugs, and she was always pleased to add to this collection any panacea which was recommended by some sympathetic friend who had seen something fresh advertised in the newspapers. On physical examination she was found to be well nourished and the only signs to be discovered were a soft systolic murmur at the apex and latterly some enlargement of the liver. With regard to the hæmorrhage from the ears the patient stated that she had suffered from this condition "for some time" and "at times the blood poured from her ears in gushes." Needless to say, nothing wrong could be discovered on examination. There were no paralysis of the lower limbs and no wasting of the muscles and she had perfect control over the bladder and the rectum. There was, however, some localised anæsthesia in the legs. She had from time to time been seen by several medical men and various forms of treatment had been tried, but all to no purpose, as strict treatment could not be properly carried out owing to the patient absolutely refusing to be removed from her cottage. She was nursed and attended by a sister and gifts were received from people whose pity she had been able to excite. For some years past she had been in the habit of inhaling chloroform at night in order to induce sleep. This was administered on a silk handkerchief either by her sister or by the patient herself and she had been supplied with two drachms every night by her former medical attendant. When the case was handed over to me I was led to understand that the inhalation of chloroform was the only treatment of any avail. On becoming acquainted with the true nature of the case I at once told the patient and her sister that chloroform was not only unnecessary but injurious and dangerous and that I could not undertake the responsibility of supplying her with the drug. As was only to be expected, I met with considerable opposition and as she had been in the habit of taking the drug for so long I did not dispense with its use altogether but reduced the quantity to one drachm, further gradually reducing the quantity until I stopped supplying her with it altogether. About this time I discontinued my visits until one night, some months later, I was hurriedly summoned as they thought "she had passed away." On arrival I found this to be the case and on entering the room detected an odour of chloroform and found a silk handkerchief saturated with the drug and an unstoppered liniment bottle by the bed containing about one and a half drachms of the same.

At the post-mortem examination nothing more than the mitral disease and some enlargement of the liver were found. It was elicited at the inquest that the deceased had continued the habit of taking chloroform which had been purchased for her at a druggist's shop and that latterly she had been having four-pennyworth (about one ounce) sometimes twice a day.

This case, I think, is interesting, first, with regard to the disease, the marked features being the wilful production of symptoms such as the painting of the eyes and the backs of the hands so as to resemble ecchymosis, the supposed bleeding from the ears, and the hæmoptysis (as the pity increased the symptoms were increased and exaggerated); and, secondly, with regard to the drug habit, the large quantity which was taken every day. Dr. Norman Kerr in his book on inebriety mentions cases in which chloroform is sometimes habitually used among the upper classes, but these cases are rarely met with.

Hambledon, Hants.

THE INCIDENCE AND MORTALITY OF CROUPOUS PNEUMONIA IN INFANCY.

By CLIVE RIVIERE, M.D., M.R.C.P. LOND.,

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IT has been often remarked that statistics may be made to prove anything which seems desirable to their compiler and the observation contains much truth, but when after much searching only a contrary result appears, when the compiler finds his former beliefs upset and disproved as the result of his investigation, then have the statistics surely proved themselves worthy of reliance. Such a reliability may be claimed for the figures quoted below. Their publication needs no further justification.

For many years the occurrence of croupous pneumonia in infancy has been a well recognised fact, but the relative frequency and the mortality in these early years have been very differently estimated by different observers. The reason for this is that all the statistics have been derived from the clinical diagnosis of cases and as this is notoriously difficult in infancy, owing to the frequency of broncho-pneumonia in the first two years of life and that very often with consolidation of lobar distribution, a considerable element of fallacy must of necessity be introduced. To eliminate this error I have approached the matter from a different standpoint—namely, from the side of morbid anatomy, in a manner which will be explained below, and I venture to think that a considerably more accurate result is thereby attained. This result is somewhat different from that which I had anticipated, the disease appearing to be more frequent in early infancy than I was prepared to expect. Having formerly accepted the conclusions drawn by Holt,[1] Henoch,[2] Hawkins,[3] and Ashby[4] from their statistics I was prepared to find a gradual increase in its prevalence from the age of infancy upwards. The results obtained below have forced me to a different conclusion.

The material from which I draw my figures and the conclusions based upon them are those obtained from cases at the East London Hospital for Children, Shadwell, during two years and I have limited my research to a two years' interval, because during that interval the post-mortem examinations were performed by myself and so the deductions drawn are those from my own observations only.

Now, first of all we must recognise what constitutes a croupous pneumonia in the lung of an infant. We must have a standard and that standard should be the same condition as it appears in the adult. In the infant, as in the adult, we may have a typical red or grey hepatisation; it may be somewhat less coarsely granular than it is in the adult but its nature is quite unmistakeable notwithstanding.

Should anything less than this be accepted as a croupous pneumonia in the deadhouse? Personally I think not. There is, however, a condition which some consider doubtful and it may be caused, I think, by broncho-pneumonia in a lobe previously hepatised. The consolidation is massive and the cut surface is very moist, not granular, and is marbled with grey broncho-pneumonic patches on a ground of intensely œdematous lung.

Broncho-pneumonia, as we know, is a common complication of croupous pneumonia and no doubt often leads to death. I have seen an obvious red hepatisation quite buried in broncho-pneumonic consolidation, but the red hepatisation was there notwithstanding and it confirmed the diagnosis. If, however, the croupous pneumonia has cleared up before death, leaving a broncho-pneumonia only, though it may be lobar in distribution and accompanied by unusual œdema, still it is only broncho-pneumonia and can only be called such. Other conclusions may be arrived at from charts and signs and symptoms, but in the deadhouse only that which is found may be taken. The occasional occurrence of such cases necessarily makes the post-mortem diagnosis of croupous pneumonia in infancy less trustworthy than it otherwise would be and adds, I am aware, a possible element of error to the records published below.

Now during the past two years there have been 18 cases sent down to the post-mortem room at the East London Children's Hospital with a diagnosis of croupous pneumonia. On examination of the lungs eight of these cases showed true hepatisation and a ninth case had such a typical course and crisis followed by a fatal broncho-pneumonia that I have included it among the cases of undoubted croupous pneumonia confirmed by post-mortem examination; the other nine were all cases of broncho-pneumonia with lobar consolidation. We thus see what a large element of error occurs in spite of a careful diagnosis. Of these 18 cases sent down only two of the patients were over two years of age and in these the diagnosis was correct; the difficulty evidently is greatest in the first two years of life when broncho-pneumonia is so common. Broncho-pneumonia may be said not to occur after the age of three years except as a complication of the specific fevers, though I have seen two cases of primary pneumococcic broncho-pneumonia which proved fatal at the ages of five and seven years. Such cases are so

[1] Diseases of Infancy and Childhood.

[2] Lectures on Children's Diseases. Translations of the New Sydenham Society, 1889.

[3] Practitioner, 1893, vol. i., p. 434; vol. ii., p. 9.

[4] Diseases of Children.

rare, however, that pneumonia in the later years of childhood may be regarded as "croupous" with great confidence.

Taking, then, the fatal cases under two years of age we find that out of 16 cases diagnosed seven proved to be true croupous pneumonia, but in nine the diagnosis was incorrect (see Table I.); thus of the remaining seven deaths

TABLE I.—*Post-mortem Cases.*

—	First year.	Second year.	Third year.	Fifth year.	Total.
Cases diagnosed as croupous pneumonia ...	7	9	1	1	18
Diagnosis correct	4	3	1	1	9
Diagnosis incorrect—broncho-pneumonia found	3	6	—	—	9

in children under two years of age ascribed to croupous pneumonia during the same period and unconfirmed by post-mortem examination we may argue that in seven-sixteenths, or three cases only, was the diagnosis correct, giving a total of ten deaths under two years of age or (adding the three cases above two years of age, two of which were confirmed by post-mortem examination and one not) 13 deaths for all ages (see Table II., corrected.) A similar result may be obtained somewhat differently. I find that during the two years post-mortem examinations were obtained in 73 per cent. of all fatal cases. Now if post-mortem examinations were obtained in nine cases of true croupous pneumonia we may presume on this percentage that 12·3 deaths from this disease occurred during the two years, a result nearly identical with that obtained above.

I have studied the notes of all the cases of croupous pneumonia occurring during this term of two years and, excluding cases in which the diagnosis was proved to be false by post-mortem examination and a few others in which the diagnosis appeared groundless, there remain 235 cases for consideration. Of these cases, 131 of the patients were above the age of two years and among them only three deaths occurred, giving a percentage mortality of 2·3. In these later years, as has been already pointed out, broncho-pneumonia occurs but seldom and errors of diagnosis are less likely to occur, consequently we may with fair safety accept these 131 cases as true instances of the disease. Below the age of two years, on the other hand, broncho-pneumonia is very common and we have already seen that in nearly three-fifths of the fatal cases in which a post-mortem examination was obtained the diagnosis of croupous pneumonia was incorrect. Thus we may fairly conclude that in a certain proportion of recovery cases also the diagnosis was incorrect.

And now how are we to estimate the extent of this error? In the fatal cases the most important diagnostic point—namely, a crisis—was of necessity absent. It is in the absence of this sign that the diagnosis between croupous pneumonia and broncho-pneumonia of lobar type fails.

Now most, I take it, will admit that if a crisis ever occurs in broncho-pneumonia it is so rare that for our present purpose its occurrence may be excluded. We may fairly consider all cases terminating by crisis to be cases of true croupous pneumonia. We find that among the 26 cases in the first year of life (see Table II., uncorrected) there were seven

TABLE II.—*Incidence of Croupous Pneumonia at Various Ages.*

—	Year. First.	Second.	Third.	Fourth.	Fifth.	Sixth.	Seventh.	Eighth.	Ninth.	Tenth.	Eleventh.	Twelfth.	Thirteenth.	Fourteenth.	Fifteenth.	Total.
All cases ...	26	78	38	27	18	16	7	12	5	3	2	1	-	2	-	235
Deaths ...	6	8	1	-	1	-	1	-	-	-	-	-	-	-	-	17
Corrected after manner described.																
All cases ...	20	45	38	27	18	16	7	12	5	3	2	1	-	2		196
Deaths ...	5	5	1	-	1	-	1	-	-	-	-	-	-	-		13

which terminated by crisis, and we may therefore accept these seven as undoubted cases of croupous pneumonia. Of the remaining cases four were confirmed by post-mortem examination, leaving 15 untrustworthy cases. Now, correcting these by the probabilities of error worked out from the post-mortem results (see Table I.)—that is, presuming only four-sevenths of these to be genuine—we have $\frac{4}{7} \times 15$, or nine cases which, with the crisis cases and those confirmed by necropsy, make $9 + 7 + 4 = 20$ cases in the first year of life. The five deaths occurring among these give a percentage mortality of 25. Also among the 78 cases in the second year (see Table II.) we find 26 ending by crisis and three confirmed by necropsy, leaving 49 untrustworthy cases, among which only three-ninths (according to the probabilities revealed by Table I.) can be considered genuine—i.e., 16 cases which, together with the 26 and three above, give 45 cases in the second year of life (Table II., corrected). Among these five deaths give a percentage mortality of 11. Putting these together we have 65 cases under two years of age with 10 deaths, giving a percentage mortality of 15·4. Now grouping these corrected figures with those for children above the age of two years we have 196 cases of all ages with 13 deaths, giving a percentage mortality of 6·6. This percentage mortality for all ages appears at first sight very high, the statistics of most observers giving a mortality of from 3 to 5 per cent., but this discrepancy is, I think, accounted for by the unusual proportion of infants which appears among these cases. As is well recognised, the disease is seldom fatal in the later years of childhood, only three patients dying out of 131 cases above the age of two years quoted above; but in infants, and especially in those below the age of one year, the mortality, as we have seen, is much higher. These die from mere stress of the disease itself; the older children do not succumb to the uncomplicated disease; if they die it is from some complication, generally pneumococcal infection of a serous membrane.

To recapitulate, we find the following percentage mortality: 6·6 for all cases, 2·3 for cases above the age of two years, 15·4 for cases below the age of two years, and 25 for cases below the age of one year. How do these compare with the figures given by other observers? Schlesinger[3] gives a mortality table based on 173 cases collected by himself and quotes besides the figures obtained by other authorities as follows:—

TABLE III.—*Percentage Mortality.*

—	Number of cases.	Age in years.	Percentage mortality.
Ziemssen	201	0–16	3·3
Jürgensen	110	0–10	3·6
Barthez	212	2–15	1·0
Dusch	230	0–10	4·8
Schlesinger	173	0–14	4
To these may be added			
Holt	1482	—	4
Ashby and Wright ...	708	—	5·2

It will be noticed that Barthez makes the mortality only 1 per cent. for cases above the age of two years, even lower than our own 2·3 per cent. The disease obviously runs a favourable course in later childhood and this explains how seldom, comparatively, the disease is met with on the post-mortem table.

Comparing the mortality for children of all ages my own 6·6 per cent. seems considerably in excess of any quoted above, but this, as I have already suggested, may depend on the age incidence of the cases. This age incidence is impossible to estimate among the statistics of these German observers but among the cases from which Ashby and Wright derive their statistics it appears that only 4 per cent. are below the age of two years compared to 34 per cent. of my own cases. This large proportion of infants among my own cases must of necessity raise the mortality for the whole. Among cases below the age of two years Ashby and Wright find a mortality of 27 per cent., considerably higher than my own 15·4 per cent., but their cases, 29 in all, are too small a number on which to base a percentage.

[3] Archiv für Kinderheilkunde, Band xxii., Hefte 3-6, p. 266.

The question why there are so many more infants among my cases is hard to answer correctly. Upon the answer depends in great part the decision as to its relative frequency at different periods of childhood. I find that the percentage of infants admitted to the large children's hospitals throughout the country differs very widely, and that in respect of numbers the East London Hospital for Children, from which these statistics are obtained, heads the list. For the year 1901 they stand as shown in Table IV. :—

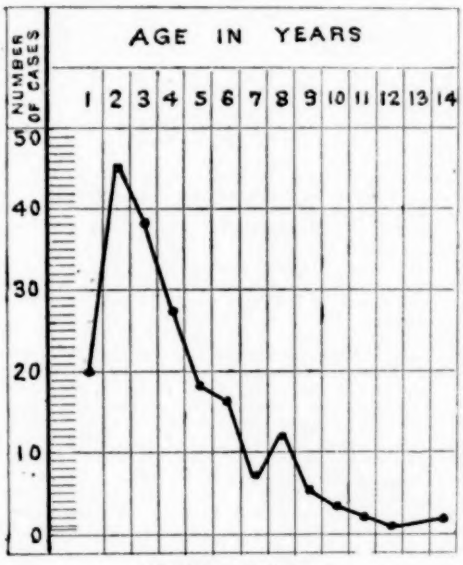
TABLE IV.—*Proportion of Admissions under Two Years of Age at Various Childrens' Hospitals.*

Name of hospital.	Cases under two years of age.	All cases.	Per-centage.
East London Hospital for Children, Shadwell	625	1518	41
Royal Edinburgh Hospital for Sick Children	572	1452	39
Bristol Royal Hospital for Sick Children	174	503	34
Hospital for Sick Children, Great Ormond-street	617	2111	29
Royal Hospital for Sick Children, Glasgow	178	738	24
Children's Hospital, Manchester	238	1288	19

It will be seen from the above table that the proportion of infants below two years of age at the East London Hospital for Children is more than double that at the Children's Hospital, Manchester, from which, doubtless, Dr. Ashby collected his cases; but even allowing for this difference there is still a wide margin between the percentage of infants among his pneumonia cases and my own, and this can only be put down to the personal equation; he has excluded broncho-pneumonia with an even more rigorous hand than I have allowed myself. Perhaps he has pruned too much, though the mortality is far from suggesting this.

The great discrepancy among the percentages of infants admitted to various hospitals makes it quite impossible to estimate accurately the relative frequency of the disease at different periods of life. My own figures, perhaps, are somewhat too high in the early years in spite of much pruning, and yet, with due allowance for the number of infants whom we treat at Shadwell, I do not see how this chart (see Chart I.) can possibly be reconciled with such a chart as that

CHART I.

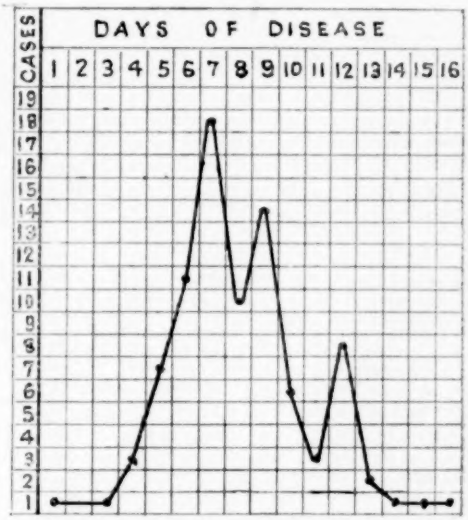


Showing age incidence.

published by Dr. Francis H. Hawkins in the *Practitioner* for 1893. The number of his cases rises gradually year by year till the age of 30 years is reached and from this point it falls steadily to old age. My own cases show the largest incidence in the second year and a great fall thereafter. Dr. Hawkins points out that an apparent fall in the later years of childhood may be due to an increased absorption of older children into the general hospitals, but could this account for the rapid decline as early as the fourth year? Hardly, I think. The enormous mortality from all diseases during the first two or three years of life, especially in the east of London, should doubtless be taken into consideration. It is obvious that a large percentage of children who would be susceptible to pneumonia in the first two or three years of life would have died from this or other diseases before the later years of childhood were reached. On the whole it seems to me impossible to show with any accuracy its relative frequency at different ages; the most that can be said—and this can be said, I think, with great certainty—is that the disease is quite common in infancy, at least as common as, and probably more common than, in the later years of childhood. In attempting to compare its frequency during infancy with that of broncho-pneumonia I find that during the two years at the East London Hospital for Children there have occurred 260 cases of pneumonia of all kinds below the age of two years. Among these cases, after judicious pruning, I have, as we saw, elected to call 65 cases true croupous pneumonia, leaving 195 of broncho-pneumonia—that is to say, 25 per cent. of the cases of pneumonia were croupous pneumonia and 75 per cent. broncho-pneumonia. This result, from the manner in which it is obtained, probably assigns an excess to the cases of broncho-pneumonia.

While collecting these cases with a view to the investigation of frequency and mortality various other points seemed sufficiently interesting to be worth grouping, such as the proportion of cases in which a crisis occurred and the position of the lesion in the lung. From among the 192 cases collected above 86, or 45 per cent., ended by crisis. The accompanying chart (Chart II.) shows the days

CHART II.



Showing the days of disease on which the crisis most frequently occurred.

of disease on which the crisis most frequently occurred. In 129 cases—namely, those terminating by crisis, and other cases in which the diagnosis of croupous pneumonia seemed fairly certain—the position of the lung lesion was ascertained with the following result: right apex, 40 cases; left apex, 10 cases; right base, 21 cases; left base, 51 cases; whole right lung, three cases; and double, four cases. Thus the most frequent seat was the left base. The right apex was affected four times as often as the left apex and the left base two and a half times as often as the right base. 59 per cent. of the lesions were at the base and 41 per cent. at the apex. The right and left sides were affected in an equal number of cases.

To sum up the results of my inquiry into the frequency

and mortality of the disease in infancy the following conclusions may be formulated: (1) that croupous pneumonia occurs in infants below the age of two years as frequently as, and probably more frequently than, in older children; (2) that in infants a diagnosis between croupous pneumonia and broncho-pneumonia is often impossible, many cases of broncho-pneumonia with lobar consolidation appearing in the post-mortem room with a diagnosis of croupous pneumonia; (3) that on account of this difficulty statistics based on diagnosis alone are quite untrustworthy; (4) that this error can be largely eliminated after the manner described above; and (5) that the mortality in croupous pneumonia is largest in the first year of life (25 per cent.), is considerable below the age of two years (15·4 per cent.), but for children above this age is comparatively small (2·3 per cent.).

A CASE OF CHLOROMA, WITH CLINICAL HISTORY AND ACCOUNT OF POST-MORTEM APPEARANCES.

BY EDGAR TREVITHICK, M.D. CANTAB.,
PHYSICIAN TO THE CHELTENHAM GENERAL HOSPITAL.

THE rarity of the disease which has been named chloroma must be my apology for publishing the following case. I have to confess at the outset that I did not diagnose the condition correctly during life. In the post-mortem room the bright green colour of the various deposits led to a correct recognition. Before entering upon a detailed account of the illness I wish to direct attention, as possibly bearing upon the pathology of the disease, to the very symmetrical disposition of the lesions found after death and to the large number of different sets of tissues which were found thus symmetrically affected. That the breasts, the kidneys, the ovaries, the orbits, the temporal fossæ, and certain parts of the ribs on both sides of the body should show such very symmetrical lesions as was the case in this instance, seems to me to be a point worthy of considerable thought. It is to be remarked that the green colouration, brilliant though it was when the various tissues were first removed from the body, faded extremely rapidly on exposure to light and air. I tried the application of several reducing agents but without success.

I first saw the patient, a girl, aged 13 years, on April 9th. She was at that time markedly anæmic and complained of headache and pain in the neck. She also complained of deafness. There was at that time some enlargement of the lymphatic glands on both sides of the neck and there were small hard nodules in both breasts. There was then no prominence of the eyes or broadening of the face. I looked upon the case as one in which arsenic might be of value and prescribed that drug. During my absence abroad she grew rapidly worse and on my return on April 29th I found her an in-patient suffering from extreme anæmia, with very marked proptosis and a curious broadening of the face, due to hard swelling in both temporal regions. These two last conditions were somewhat more marked on the left side than on the right. She complained of very severe pains in her head and neck, and also in her right side. There was delirium at night. The patient had exhibited very obstinate constipation for some time past which it appeared almost impossible to overcome by drugs, and upon this I wish to lay some stress in view of the excessively loaded state of the colon found after death. The urine was acid and contained a trace of albumin. Its specific gravity averaged 1018. There was considerable distension of veins over the trunk generally. The left breast was composed of two very hard globular tumours, each of about the size of a hen's egg, freely moveable over the deep parts, but adherent to the skin. The opposite breast was represented by three similar tumours. These mammary tumours showed through the skin as being of a dark blue colour. There was a loud hæmic bruit heard all over the cardiac area, but loudest at the base. The breath sounds at both pulmonary bases were very feeble. On the sternum and on the ribs there were several rather hard irregular nodules which were painful on pressure and which suggested localised periostitis. The abdomen was, as a whole, somewhat distended. There was considerable enlargement of superficial veins. The spleen was not to be felt. The colon could be felt loaded with very hard fæcal masses. There were chains of moderately enlarged glands on both sides of the neck, in both axillæ, but none in the inguinal regions. There was no ascites or anasarca. The patient complained that she could not see the light with her left eye. The ophthalmoscope showed large hæmorrhagic patches in both eyes with considerable blurring of the edges of the discs. There was nothing specially abnormal to be seen in the pharynx. The tonsils were not enlarged. There was a good deal of petechial hæmorrhage in the skin, especially on the insides of both arms. The pulse was rapid but fairly full. In frequency it averaged 130 during the last week of life. The temperature ranged between 99° and 100° F.

From the above it will be seen that the most prominent clinical features of the case were pallor, proptosis, broadening of the face due to hard swelling in the temporal regions, hard, freely moveable tumours in both breasts, periosteal nodes on the sternum and ribs, and subcutaneous hæmorrhages. The blood was first examined three weeks before death. There was then great increase of white cells. No actual count was made, but on comparing the films made at this time with those prepared shortly before death it was evident that the number of white cells in the blood increased very rapidly. The change, in fact, resolved itself into an enormously great and rapid increase of mononuclear cells. Amongst this crowd of mononuclear cells, which in the later stages became approximately equal in number to that of the hæmocytes, there appeared a considerable number of bodies which after careful examination I believed to be degenerating nuclei derived presumably from defunct cells (see illustration). These bodies varied in size and shape, but in some cases their dimensions were surprisingly large, and I saw several that possessed a diameter equal to six times that of the neighbouring red blood corpuscles. In connexion with these bodies Professor J. Lorrain Smith of Belfast has kindly sent me a blood film from a case of lymphatic leukæmia which shows similar forms. He tells me he regards these as degenerating cells and in keeping with this view is the fact that they stain badly. Some of the intact mononuclear cells found in the blood attain exceedingly large dimensions. Great variation of size is noticeable and they seem to be distributed in groups, the proportion of white to red cells being much greater in some parts of the film than in others. Cultures from this blood were made both on serum and agar, but no growth of any kind has appeared on any of the tubes.

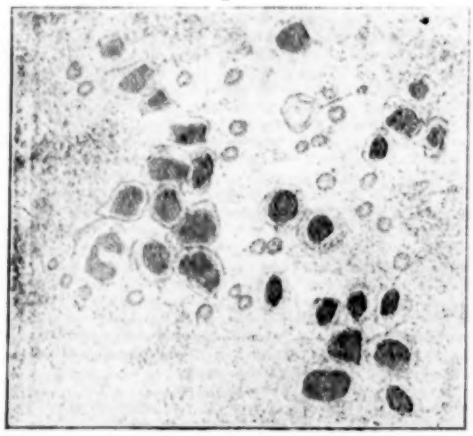
Necropsy.—The most notable results of the post-mortem examination, made 24 hours after death, may be said to have been the finding of multiple deposits of bright-green material (1) connected with various bones; (2) in lymphatic glands; (3) in the kidneys; (4) in the liver; (5) in both ovaries; (6) in the pancreas; (7) in the thyroid; (8) in the dura mater; and (9) in the choroid plexus of the lateral ventricles of the brain. The alimentary tract was free both from green pigmentation and from any obvious new formation. Its mucous membrane was normal throughout and the Peyer's patches were not in the least hypertrophied. The whole of the large intestine was very wide as to its calibre and was blocked all the way from the cæcum to the rectum with exceedingly hard large scybalous masses, but its mucous membrane was not obviously altered. The spleen was not in any way notably enlarged and showed no abnormality to the naked eye. The suprarenal bodies were seemingly normal. I regret that I have omitted to keep any parts of these apparently unaffected organs. It would have been interesting to have seen whether the absence of the green pigmentation was in reality a surety for the absence of tissue change. The heart was very pale and flabby and showed on its pericardial surface a good deal of petechial hæmorrhage. There was no great excess of fluid in the pericardium. There was no valvular disease. In the cavities of the right side of the heart was a curiously green semi-translucent blood clot. The green colour of this clot was not nearly so bright as that of the green deposits to be described. There was a considerable quantity of clear fluid in both pleural cavities and in the right cavity there was a considerable quantity of adherent, fairly fresh lymph. The bases of the lungs were œdematous, but the lungs themselves were not involved in the way of showing any of the green deposit. There was no free fluid in the peritoneal cavity and this membrane was itself free from any involvement. The tissue of the brain, if considered apart from the choroid plexuses of its lateral ventricles, was apparently unaffected. It now remains to describe the condition of the affected tissues.

1. Concerning affected bones. The sternum was very largely involved. On its anterior surface were found three or four small irregular tumours situated for the most part (if not entirely) between the periosteum and the bone. When cut into they were composed of firm bright-green, rather elastic, material. Some of them reminded me of parboiled broadbeans after the skin has been removed. And that in my mind describes the colour too and may be taken to describe the colour of all the deposits, which were for the most part uniform in tint, except that the ovaries showed a somewhat brighter and more lasting hue. On the posterior surface under the periosteum were situated several similar green collections. They looked to the naked eye like collections of very firm green lymph. On sawing through the bone the cancellous tissue was found beset throughout with minute collections of green material. The ribs presented a curiously symmetrical distribution of small, rather thin patches of similar green material, occurring on the anterior surfaces of each rib, a short way outside the costal cartilages. On exposing the vault of the skull several hard nodules, similar to those found on the sternum, were discovered lying between the periosteum and the bone near the sagittal suture. On removing the skull-cap similar bodies were found between the dura mater and the skull and in some instances the position of these corresponded with the nodules on the external surface and the bone that intervened was stained green. On removing the roofs of the orbits a thick firm layer of green material similar to that found on the vault of the skull was discovered lying between the periosteum and the bony walls of the cavities. This layer of new tissue was thickest on the outer walls of the orbits where it measured more than half an inch in thickness. It was easily separable both from the periosteum and from the bone, the latter being left quite smooth, unstained, and bare. The presence of this thick layer of firm green deposit was obviously encroaching upon the orbital space and by its presence bringing about the proptosis. There appeared to be no deposit actually amongst the structures contained in the orbit. On removing the left temporal muscle a thick firm layer of similar material was found lying underneath the periosteum in the temporal fossa of the skull. The deposit was causing the temporal muscle to bulge and must have caused very great tension of the fasciæ of this region. The conditions were very similar on the two sides of the body. That on the left side, however, was somewhat more pronounced than that on the right. I regret that I did not examine the deep parts of the temporal bone. Seeing how well marked the deafness and earache had been in the early stage of the illness I have no doubt deposits existed therein. In order to show the whole of the lesions of this case a process similar to that followed in the dissecting room would have been necessary. Reverence for the corpse must explain why I am unable to speak any more fully about the condition of the other bony parts of the body. The anterior aspect of the spinal column showed no deposits and one or two intervertebral discs I cut into showed no staining. I did not expose the surfaces of the long bones, but I could feel no nodules connected with them. 2. With reference to the lymphatic system, the most marked involvement was that found on the left side of the lumbar spine. In this situation behind the peritoneum was found a thick firm layer, which I believe originated in or around the thoracic duct. Certainly the deposit was much thicker on the left side of the spine than on the right. The glands at the root of the mesentery were not affected, but behind the pancreas I found two or three moderately enlarged very firm bright-green glands. In the posterior mediastinum, especially at the roots of the lungs, there were several moderately enlarged green glands. On both sides of the neck and in both axillæ the glands were similarly affected. 3. The kidneys were larger than normal. On section the appearance presented was one of astounding brilliance. The subcapsular region was bright green in colour, whereas the medullary portions showed a considerable expanse of fairly bright-red tissue, containing here and there bright-green islands. Some of these islands were remarkably circular. The green subcapsular zone varied somewhat in thickness in different places. Its outer limit immediately under the capsule was even while towards the cortex it showed an irregular margin. I cut the kidney in many planes and found that the green layer extended everywhere underneath the capsule. The capsule itself was not affected and was not abnormally adherent. The right kidney weighed nine ounces and the left nine and a quarter ounces. The colour in the kidneys faded very rapidly, and within half an hour of the section being made the bright-green colour had changed to a dull drab. 4. The liver was found traversed by curious bright-green paths. These green paths varied in width and were in all cases in the course of the branches of the portal vein and its satellites. The liver tissue in the neighbourhood of the gaping hepatic veins showed no staining. The colouration here as in the kidney faded quickly after section. The hepatic tissue was rather soft. 5. The right ovary was found to be considerably enlarged. It was of about the size of a hen's egg and was heavy and firm. The left ovary was of about half this size. The uterus was small. On section the right ovary showed a firm bright-green structure; its composition seemed uniform throughout. The section of the left ovary showed similar appearances. The lower part of the uterus showed green colouration. 6. The pancreas showed several green islands. 7. The thyroid also showed certain superficial green patches. 9. The choroid plexus of the left lateral ventricle of the brain showed a soft bright-green tumour of about the size of a black currant. This was the only soft deposit I found. On slight pressure it flattened out between the fingers.

I have examined under the microscope the deposits found in connexion with the bones, lymphatic glands, kidneys, liver, pancreas, and ovary. In all cases the picture is one of extensive invasion by cells foreign to the parts. Wherever the green colouration was most developed there the crowd of these cells is thickest. In the kidney, in the bright-green cortical zone the substance proper of the gland is only represented by very sorry remnants, while its place is seen to be usurped by a disorderly crowd of densely packed cells, which in the immediately subcapsular parts show evidence of considerable degeneration, presumably from overcrowding and want of nutrition. There is no evidence of any vascularisation of the affected areas and the peripheral parts of the section are composed of exceedingly soft and friable material which takes the stain indifferently. On passing the eye inwards towards the medullary portion of the gland somewhat disorderly columns of cells are to be observed, apparently forcing their way between the renal tubules. The green islands mentioned as occurring in the medullary portion show under the microscope as dense aggregations of similar cells. In the liver aggregations of wandering cells are seen gathered round the branches of the portal vessels and radiating from them amongst the hepatic cells. So far it would seem that the blood had become charged with multitudes of mononuclear colourless corpuscles and that great crowds of them had migrated thence and taken up positions in various organs and tissues. I am aware that it has been the opinion of observers that the condition known as chloroma is one of secondary sarcomatous new growth. But after carefully examining the various tissues in this case I find myself unable to believe that this can be the case. The symmetry of attack, the relative positions of the organs invaded, the irregular disorderly disposition of the individual invading cells, and the marked absence of vascularisation all in my mind make against this view.

I have carefully examined the individual cells in the various tissues and believe them to be identical. In all cases the nucleus is large and single. The body of the cell is irregularly polygonal, the angles of its outline being particularly sharp. I cannot believe that this striking appearance is caused by pressure contact. The mononuclear cells found in such large quantities in the blood show something too of this angularity of outline, but it must be stated that they, at any rate on the average, exhibit considerably larger dimensions than do the cells found in the affected tissues. The question of the greatest interest is as to the place of origin of this host of seemingly hostile elements. Is it possible that the key is to be found in the sections of lymphatic glands, for in these, where they pass through the neighbourhood near the hilum of the gland, are to be seen many vascular, presumably lymphatic, spaces wherein the endothelium is evidently undergoing immense hyperplasia, so that in several places vessels of considerable calibre are seen with their lumina blocked with cells similar in character to those found amongst the tissues. It is impossible to see such aggregations of epithelioid cells without attributing to them some important part in the morbid condition under notice. The mass of firm tissue that was found situated around the course of the thoracic duct has been mentioned and I much regret that I

have not any distinct part of that vessel to examine. The explanation of the brilliant colouration of the new formations in this condition appears to be difficult. In my mind these phenomena connect themselves with certain investigations I made some time since into cases of blue sweating of the feet and blue discolouration of the urine. And I have been led to believe that the condition of the colon is intimately concerned with the production of,



Blood $\frac{1}{12}$ objective. C eye-piece. 27 mononuclear cells. 3 degenerating nuclei (*a*). 26 red blood corpuscles.

at any rate, some sort of forerunner of the blueness sometimes met with in sweat and urine. The course and rapid progress of the illness were of a provokingly mysterious kind and after carefully considering the previous history there are only two points which suggest themselves as possible causes, the one the exceedingly obstinate intestinal inertia and the other the distinct history of some severe attack of pharyngitis which the patient was complaining of in December last and from which she made rather a slow recovery. There must, I imagine, have been some poison in the circulation which stimulated a great overgrowth of certain tissue units, which eventually led by a misplaced activity to the death of the host.

Cheltenham.

NOTE ON A CASE OF SPURIOUS HYDROPHOBIA (LYSSOPHOBIA).

BY W. S. HARRISON, M.B., C.M. GLASG.,
CAPTAIN, R.A.M.C.; ASSISTANT TO THE DIRECTOR OF THE PASTEUR INSTITUTE OF INDIA.

I AM indebted to Lieutenant-Colonel D. Semple, R.A.M.C., director of the Pasteur Institute of India, for kind permission to publish the following case.

The patient, a Eurasian medical student, aged 20 years, was bitten by a rabid dog on May 15th, 1903, the bites inflicted being four deep punctures at the base of the left thumb. Seven days after the bite, on the 22nd, at 5 P.M., he suddenly complained of acute burning pain in the throat extending down the front of the chest and of great difficulty in swallowing or speaking, and he became delirious. He ran out of his room, saw a dog in the road, and immediately ran back in a state of panic. At 7 P.M. when I saw him he was lying on his bed, his whole aspect being one of extreme terror: his eyes were widely open, his pupils were dilated, and his breathing was rapid and laboured. It was difficult to extract any information from him owing to his apparent inability to grasp the meaning of a question except after it had been frequently repeated and he communicated chiefly by means of signs, with the use of an occasional word spoken with effort, the difficulty being apparently due to spasm of the pharynx. He complained of great pain in the throat and after speaking a word or two would grasp his throat and roll back on his bed with all the appearance of suffering the acutest agony from the pharyngeal spasm. He continually asked for water and when the cup was presented to him he grasped it in both hands, staring at it with the greatest intensity, then, gathering himself together as if for a great effort, he brought the cup gradually to his lips, the hands shaking violently, and, drawing a deep breath, he attempted to drink; the attempt at once produced a violent pharyngeal spasm, he dashed the cup away and rolled on the bed, clutching at his throat and groaning. A sudden noise, the bringing of a light near him, or touching the acutely hyperæsthetic skin, especially in the region of the throat or epigastrium, produced the same effect. The temperature was 101·8° F. and the pulse was 120. Altogether the case appeared at first sight to be one of typical hydrophobia, but against this view was the fact of its being impossible for hydrophobia to develop after so short an incubation period as seven days unless fixed virus was actually injected on to the surface of the brain. The present illness could not, then, at any rate, be hydrophobia originating from the bite of May 15th and if one could exclude an anterior infection the diagnosis of hydrophobia was out of the question. There was no history of such an infection, but there was just a bare possibility of it from the fact that the patient had within the last year seen, and helped to attend to, three cases of hydrophobia in the hospital where he was a student. Further investigation bore out the view that the case was one of the spurious disease. There had been no premonitory symptoms such as headache or pains in the limbs or in the part which had been bitten, the attack developed with an unheard of rapidity, so much so that in two hours from its commencement the patient was in the condition of a true hydrophobic on the second or third day of his illness. It was noticed that the pharyngeal spasm did not spread into one of the respiratory muscles and there was no true general tetanoid convulsion such as one sees in the height of hydrophobia. The examination of the throat with the aid of a tongue depressor, an almost impossible and certainly cruel proceeding in the case of a true hydrophobic, was made with ease and it failed to excite any pharyngeal spasm. When the patient did succeed in getting some water into his mouth it was not rejected. In view of these facts it was considered that the case was almost certainly one of spurious hydrophobia, probably excited by the patient's brooding over the bite which he had suffered and its possible consequences. I ordered a draught containing 15 grains of chloral hydrate and 20 grains of potassium bromide; this was administered with considerable difficulty and the same phenomena as occurred when water was given were produced; however, by dint of firmness the patient was eventually induced to drink it. He slept five hours that night and awoke much better, and had no recollection whatever of the incidents of the previous evening; there was still some difficulty in swallowing and the skin was acutely hyperæsthetic all over the right side of the abdomen; the temperature was normal and the pulse was 108. As the day progressed the patient improved rapidly and by the evening he was practically well. On May 24th he had quite recovered and was able to resume his course of antirabic treatment which he completed in due course. There was no return of the symptoms described.

I think the case is of interest on account of the extremely close superficial resemblance of the symptoms to those of hydrophobia, which might easily have induced one, in the absence of other guiding points, especially the shortness of the incubation period, to look on it as a case of recovery from hydrophobia.

SOCIETY FOR RELIEF OF WIDOWS AND ORPHANS OF MEDICAL MEN.—A quarterly court of the directors of this society was held on July 8th, Mr. Christopher Heath, the President, being in the chair. Four new members were elected. There were no fresh applications for grants. The death of a widow was reported, who had received £35 a year since 1885. A sum of £1328 was voted for distribution among the 54 widows, 13 orphans, and the four recipients from the Copeland Fund, now receiving half-yearly grants. The expenses of the quarter were £46 8*s.* 6*d.* A legacy of £25 had been received from the executors of Miss Alicia Harvey and a donation of £5 from a relative of a widow who died in 1883 and had had grants of £50 a year since 1876, as a thank-offering.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv., Proœmium.

WESTMINSTER HOSPITAL.

A CASE OF INFLUENZAL ARTHRITIS.

(Under the care of Dr. W. MURRELL.)

A MAN, aged 43 years, was admitted to the Westminster Hospital on March 28th, 1903, suffering from pain in the joints. There was no family history of rheumatism and he had never had rheumatic fever. He had had several attacks of influenza. The first occurred in Australia in 1891 when he was laid up for some days, the most prominent symptom being lumbar pain. The second attack occurred two years later when he was laid up for a week with coryza and pains in the chest. The third attack occurred four or five years before admission, when he was confined to bed for a week. Subsequently, whilst in America, he had several attacks but of no great severity. A few days before Christmas, 1902, he had a severe attack, with running from the eyes and nose, sore-throat, and pains all over, especially in the shoulders. He obtained medical advice and was told that he must go to bed at once, but there being at that time a great pressure of work he was unable to obtain leave of absence and with great difficulty kept about for three weeks. At the expiration of that time he had to give in and for five weeks was in bed with pains in the knees, shoulders, arms, wrists, and back. He was told that his temperature was high but there was no sweating. He then went to Sandgate for a month but during the whole of the time was confined to the house with pains in the joints as before. He returned to London on March 25th and three days later came into the hospital. On admission his temperature was 101·2° F. and most of the middle-sized joints were hot, red, and tender, the right wrist and the left ankle being mostly affected. There was very little effusion into any of the joints and not enough to justify aspiration. There was no sweating but the patient had a soft apex systolic murmur. Under the influence of salicylate of sodium the temperature fell to normal in four days and the joint pains subsided, although some stiffness remained in the right wrist. The patient was discharged on April 24th.

Remarks by Dr. MURRELL.—This case would ordinarily have been diagnosed as acute rheumatism but there is very little doubt that it was one of influenzal arthritis and the previous history of the patient gives support to this view. There was absolutely nothing pointing to rheumatism, whilst, on the other hand, he had had many attacks of influenza, none of which, however, were complicated with pneumonia. The onset of a first attack of acute rheumatism in a man 43 years of age is rare, especially in the absence of some definite exposure to wet or cold. There was no sweating and the protracted course of the disease was unusual. The patient had not had gonorrhœa and there was no history of syphilis. It is to be regretted that there was not sufficient effusion in any of the joints to admit of a bacteriological examination.

This case is of interest considered in connexion with the observations of Mr. Howard Marsh[1] in his Bradshaw lecture on Infective Arthritis delivered at the Royal College of Surgeons of England on Dec. 10th, 1902. It is now recognised that the term "rheumatic fever" is generic and includes several different diseases. Of these influenzal arthritis is probably one of the least common. Mr. Howard Marsh records only two such cases, but Dr. P. Bouloumié[2] of Vittel has incidentally dealt with the subject. His paper, entitled "Influence de la Grippe sur les Manifestations Arthritiques," contains an account of a number of cases of arthritic inflammation following in the wake of influenza which the author ascribes to gout, but there is no evidence that they were of this nature and the probabilities are that some at least were examples of influenzal arthritis. Mr. H. L. Barnard[3] mentions a case in a boy, aged 14 years, in whom severe pain and swelling in the right knee followed an attack of influenza. A trocar was introduced and a gelatinous cord of pus was withdrawn, a culture from which showed slight growth of cocci in short chains said to be probably pneumococcus. It is recorded as a case of pneumococcic arthritis but it does not appear that the influenza was complicated with pneumonia and on admission the lungs showed no signs of existing disease. It may have been a case of primary pneumococcic arthritis, but the bacteriological report is somewhat indefinite and the disease seems to have followed immediately in the wake of influenza.

The subject of pneumococcic arthritis has been carefully worked out by Dr. E. J. Cave[4] of Bath and in his paper he gives an account of the cases up to 1899 collected by Dr. L. Leroux[5] and embodied in his monograph. Dr. Cave gives a table of cases of pneumococcic arthritis, of which 30 were recorded by continental observers and one was under the care of Dr. Cave himself. In 28 of the 31 cases the arthritis followed the pneumonia, the interval from the onset varying from a few days to a fortnight; in two cases the arthritis preceded the pneumonia and in only three cases was there pneumococcic arthritis independently of pneumonia. These cases of primary pneumococcic arthritis are rare and I have met with only one instance of the disease. The patient was admitted to the Westminster Hospital on Dec. 23rd, 1902. She was a woman, aged 32 years, and complained of pains in the right shoulder, the wrist, and the knee. There was sufficient fluid in the knee-joint to admit of aspiration and on examination by Dr. W. S. Lazarus-Barlow it was found to contain diplococci culturally and morphologically indistinguishable from the diplococcus pneumoniæ. The patient was pregnant, but she had not had pneumonia and there was no evidence of any other form of pneumococcic infection. The other cases of primary pneumococcic infection are recorded by Griffon, Widal, and Widal in conjunction with Lesne. The case published by Vincent Giffon[6] was that of a woman, aged 71 years, who was admitted into the Hôtel Dieu in a comatose condition with a temperature of 40° C. and a suppurative arthritis of the right ankle. The joint was incised and the patient died on the following day. Cultures and inoculations showed the presence of a pneumococcus "pure and virulent." At the necropsy it was found that in addition to suppuration into the ankle and calcaneo-astragaloid joints and the neighbouring synovial sheaths there were endocarditis and meningitis. The lungs were emphysematous but there was no pneumonia. Widal's[7] case was one of metatarso-phalangeal pneumococcic arthritis with purulent pericarditis of the same origin. Pneumococcic arthritis often attacks the smaller joints and in several cases the sterno-clavicular articulation has been involved. This was noticed in Widal's[8] other case in which the sterno-clavicular joint suppurated and pus withdrawn on two occasions showed a pure culture of pneumococci. Dr. Nathan Raw[9] has recorded seven cases of pneumococcic arthritis, all under his own care, but they were all preceded by pneumonia. It is somewhat surprising that the specific organism—the pneumococcus, the micrococcus pneumoniæ, or the diplococcus lanceolatus—which is responsible for this particular form of disease should, although strictly parasitic, confine its attention to man and not necessarily under pathogenic conditions. It is surprising, too, that it should give rise to such a variety of morbid manifestations, for in addition to the pneumonia and the arthritis, we have empyema, pericarditis and endocarditis, peritonitis, salpingitis, meningitis, otitis media, keratitis, and tonsillitis, all of pneumococcic origin.

Other cases of arthritis, some of the so-called rheumatoid variety, are due to the presence of a diplococcus indistinguishable morphologically from the diplococcus rheumaticus. Dr. F. J. Poynton and Dr. Alexander Paine[10] isolated, cultivated, and demonstrated in the synovial membrane obtained from the arthritic knee-joint of a patient who died suddenly from carbolic acid poisoning an organism of

[1] THE LANCET, Dec. 13th, 1902, p. 1603.
[2] Bulletin Général de Thérapeutique, vol. cxl., 1900, p. 5.
[3] THE LANCET, April 25th, 1903, p. 1157.
[4] THE LANCET, Jan. 12th, 1901, p. 82.
[5] Les Arthrites à Pneumocoques. Paris: J. Rousset, 1899.
[6] Bulletin de la Société Anatomique. April, 1896, p. 299.
[7] Bulletin de la Société Médicale des Hôpitaux de Paris, Jan. 24th, 1896.
[8] Ibid., May 6th, 1896.
[9] Brit. Med. Jour., Dec. 21st, 1901, p. 1803.
[10] Transactions of the Royal Medical and Chirurgical Society, vol. lxxxv., p. 237.

this description which, injected into a rabbit, produced severe arthritis. The knee-joint from which the specimen was obtained contained two drachms of clear fluid, the cartilage was eroded and the synovial membrane was much thickened by chronic disease; it was, in fact, a destructive non-suppurative lesion probably of the nature of rheumatoid arthritis. There is no reason for supposing that this diplococcus is capable of producing pneumonia or that it is allied to the diplococcus lanceolatus. There are many other forms of infective arthritis, one of the best known being the gonococcic arthritis so often associated with gonorrhœal iritis. Cases of arthritis following in the wake of ophthalmia neonatorum are now generally recognised and Mr. R. Clement Lucas[11] has collected from various sources 23 cases of joint disease in infants secondary to purulent ophthalmia. Darier[12] in 1889 showed the presence of the gonococcus in the secretion from the conjunctiva in these cases and Deutschmann[13] demonstrated its presence in the fluid obtained from the inflamed joints. Two cases of arthritis, traumatic in origin, have been recorded by Mr. Herbert Page.[14] One of these was that of a boy, aged 14 years, who received a blow on the right knee. There was effusion and the fluid contained a diplococcus which in its morphological and cultural characteristics resembled the diplococcus of rheumatic fever. Mr. G. A. Wright[15] has described three cases of polyarthritis in women suffering from leucorrhœa and he suggests that they were septic in origin. Of other forms of arthritis those connected with scarlet fever, enteric fever, erysipelas, glanders, and other diseases are well known. Dr. Percy Kidd and Mr. H. E. Symes-Thompson[16] have shown cases of arthritis following bronchiectasis. I have recently seen with Mr. C. W. Glassington a case of arthritis of the middle-sized joints undoubtedly due to a septic condition arising from many carious teeth.

GLASGOW ROYAL INFIRMARY.

A CASE OF ACUTE LYMPHATIC LEUKÆMIA.

(Under the care of Dr. G. S. MIDDLETON.)

FOR the notes of the case we are indebted to Dr. W. K. Hunter, assistant physician.

A youth, aged 19 years, was admitted into Dr. Middleton's wards in the Glasgow Royal Infirmary on April 12th, 1902, suffering from swellings in the neck, axillæ, and both groins of about two months' duration. The swelling was first noticed in the right submaxillary region a little below and behind the chin. It was hard but not tender and in size not larger than a horsebean. It quickly began to enlarge and shortly afterwards a similar swelling appeared in a corresponding position on the left side of the chin. Both these swellings steadily increased in size and soon similar ones appeared in both axillæ and a few days later in both groins. During this time the patient said that he was fairly well and took his food well, but nevertheless he had fallen off considerably in weight. But it was the size of the swellings in the neck, axillæ, and groins rather than any feeling of debility that gave him anxiety and made him seek admission to the hospital.

The patient's past history was excellent. He had been a farm servant for five years and as such was exposed to all kinds of weather. He said that he was always well fed and well clothed. There was no history of syphilis. His father died at the age of 81 years; his mother and two sisters were alive and in good health. On admission to the wards the patient appeared fairly well coloured and looked healthy, though by no means specially robust. The swelling in the neck was symmetrical on both sides. It filled up the posterior triangles of the neck and extended forwards into the submaxillary and downwards to the supraclavicular regions. The glands were firm to the touch and there was no evidence anywhere of softening. At the upper part of the swelling the glands were rather matted together, but below the individual glands were more definitely isolated. There was no adhesion to the jaw, clavicles, or deeper structures of the neck. The skin was unaffected and non-adherent. The thyroid gland was not enlarged. In each axilla the swelling was of about the size of a goose's egg; it passed under the pectoralis major in front and the latissimus dorsi behind. Similar enlargements affected the vertical and oblique sets of inguinal glands but the structures in the popliteal spaces were unaffected. The veins on the front of the chest and abdomen and also in the upper arms were considerably distended. There was no œdema of the extremities. The cardiac area of dulness was not enlarged, but there was a zone of dull percussion over the sternum extending almost to the episternal notch and measuring at its upper level three inches in transverse diameter. The heart sounds seemed pure. The lungs, too, presented no abnormality to percussion or to auscultation. Both the liver and the spleen were considerably enlarged and both were easily palpable below the costal margins. The liver measured six inches vertically in the nipple line and the vertical measurement of the splenic dulness was seven inches. The patient breathed with his mouth open and seemed to have some naso-pharyngeal obstruction. The tonsils were greatly enlarged. Cough was of the laryngeal type but examination of the larynx was negative. The blood was examined microscopically in the fresh state but there was noted to be only a slight increase in the number of white blood corpuscles and the case was accordingly diagnosed as one of Hodgkin's disease. The patient made but little improvement under treatment and, indeed, within a few days of admission to the hospital he was seen to be getting steadily worse. On May 11th the glandular enlargements were noted to be considerably increased in size and there were now swellings in both infraclavicular fossæ. The lower border of the liver extended four inches below the right, and the spleen three inches below the left, costal margin. Some fluid was made out in the abdominal cavity and there was marked œdema of the legs, thighs, and external genitals. There was now a certain degree of dyspnœa and there was dulness on percussion at the base of both lungs behind. There was tenderness, too, on pressure over the sternum but no tenderness of the vertebræ or of the long bones of the arms or of the legs. The patient was now very deaf. He died four days later—i.e., on May 15th—just three months after the glandular enlargement was first noted. A post-mortem examination was not allowed.

The blood was examined a few days before death but this time by means of stained films. These were fixed by heat and stained with the triacid stain and with eosin and methylene blue. A careful examination of a large number of films convinced one that there was now a quite definite, though not marked, increase in the number of white blood corpuscles. These were not counted in the hæmocytometer, but by counting the corpuscles in a large number of fields and comparing them with the number in similar films of a normal blood it was estimated that there would be about 30,000 white corpuscles per cubic millimetre. They were in the following proportions: large lymphocytes, 87·3 per cent.; small lymphocytes, 4·2 per cent.; polymorphonuclear corpuscles, 2·5 per cent.; and large mononuclear (hyaline) cells, 6·0 per cent. There were no marrow cells or "mast" cells and extremely few eosinophile cells. The red corpuscles showed a moderate poikilocytosis but no nucleated red corpuscles were found. The number of red corpuscles and the hæmoglobin were not estimated.

Remarks by Dr. HUNTER.—Acute leukæmia is a rare disease. In 1893 the number of published cases was given by Kosslin[1] as 35 and since that date not more than about a dozen others fall to be added to the list. But besides its rarity the above case is of interest on account of the difficulty in its diagnosis, for examination of the blood showed but slight increase in the number of white blood corpuscles. In view of the second examination of the blood the diagnosis of the case underwent revision, for the great proportion of large lymphocytes, together with the diminution of the polymorphonuclear leucocytes, is very characteristic of the blood in lymphatic leukæmia. Certainly the absence of any marked leucocytosis in the earlier stage of the disease, and the very moderate leucocytosis (30,000 per cubic millimetre) later, is not what one looks for in a typical case of leukæmia. But such cases as the above are not unknown, for, as von Limbeck[2] has pointed out, the lymphocytosis sometimes

[11] Ibid., vol. lxxxii., p. 137.
[12] Archives d'Ophtalmologie, 1889, p. 175.
[13] Archiv für Ophthalmologie, 1890, p. 170.
[14] Transactions of the Clinical Society of London, vol. xxxv., 1902, p. 84.
[15] THE LANCET, May 17th, 1902, p. 1376.
[16] Transactions of the Clinical Society of London, vol. xxxv., 1902, p. 176, 216.

[1] Jahrbuch der K.K. Wiener Krankenanstalten, Jahrgang 2nd, 1893, p. 566.
[2] The Clinical Pathology of the Blood. London: The New Sydenham Society, 1901.

does not appear till shortly before death, and Ewing[3] says: "As a rule, the severity of the general condition is proportionate to the increase of leucocytes, except in acute leukæmia, when the number of leucocytes may not exceed that of inflammatory leucocytosis." In the light of such observations, then, I think I am correct in classing the case as one of leukæmia and the short duration of the illness—not more than three months in all—would seem to justify one in calling it an acute leukæmia. That it was not pseudo-leukæmia (Hodgkin's disease) seems quite clear when one considers that in that condition the polymorphonuclear and large mononuclear or hyaline cells together usually make up 90 per cent. or more of the total leucocytes present; here only 10 per cent. are made up of these corpuscles. It might, however, be urged that this case commenced as pseudo-leukæmia and passed on to be a true leukæmia. Some such cases have been put on record but few of them seem unequivocal. That our case did not commence as a pseudo-leukæmia one cannot positively assert, seeing that the variety of leucocytes present early in the disease is not known. Still, in the absence of evidence to the contrary, it seems correct to think of it as a leukæmia from the beginning. And we would here again insist that the differentiation of leukæmia from pseudo-leukæmia does not entirely depend on the presence or absence of a considerable leucocytosis. It would seem to be not at all impossible that some of the cases of pseudo-leukæmia described as passing into leukæmia were really leukæmias from the beginning but with only a slight increase in the number of their white blood corpuscles. In conclusion I have to express my indebtedness to Dr. Middleton who so kindly placed at my disposal his record of this case and by whose kind permission I publish it. I myself am responsible for the second examination of the blood and for the conclusions drawn therefrom.

[3] Clinical Pathology of the Blood. London: Henry Kimpton.

Medical Societies.

OBSTETRICAL SOCIETY OF LONDON.

Ophthalmia Neonatorum, its Etiology and Prevention.

A MEETING of this society was held on July 1st, Dr. EDWARD MALINS, the President, being in the chair.

Mr. SYDNEY STEPHENSON opened a discussion on Ophthalmia Neonatorum, its Etiology and Prevention. He remarked that ophthalmia neonatorum was the cause of more blindness than any other local disease of the eyes excepting atrophy of the optic nerve. Competent authorities estimated that it accounted for upwards of 10 per cent. of the cases of blindness. In the United Kingdom alone the individuals blinded by the disorder probably represented a yearly burden upon the commonwealth of upwards of one-third of a million pounds sterling. Yet ophthalmia neonatorum might be prevented by the adoption of a few simple precautions. Of 1498 cases of ophthalmia neonatorum gonococci were demonstrated in 60·17 per cent. Amongst the other micro-organisms sometimes associated with the disease were the following: pneumococci, Koch-Weeks's bacilli, Morax's diplobacilli, bacterium coli, Klebs-Löffler bacilli, pneumobacilli, pyococci, streptococci, and micrococci lutei. Mr. Stephenson laid considerable stress upon the bacteriological examination of the pus from the conjunctiva, as the mere clinical diagnosis of the disease was open to serious fallacies, of which he quoted instances. It was pointed out that infection of the baby's eyes with gonococci might come about (1) in the maternal passages, either before or during the act of birth; (2) almost immediately after birth; or (3) one or several days after birth. Although the second was by far the commonest mode of infection, yet cases were quoted to show that rarely the eyes might become infected in utero. With regard to prevention Mr. Stephenson pointed out the great advantages of Credé's method, the alleged drawbacks to which were severally examined and criticised. The only disadvantage of the method admitted by Mr. Stephenson was the almost constant production of an insignificant conjunctival catarrh. An analysis of cases treated by different agents brought to light the fact that a 2 per cent. solution of nitrate of silver was by far the best prophylactic remedy. Protargol and solutions of corrosive sublimate were good but inferior to the nitrate of silver.

Dr. G. E. HERMAN said that the mass of evidence collected by Mr. Stephenson clearly showed the superiority of the 2 per cent. solution of nitrate of silver originally recommended by Credé to every substitute that had as yet been tried. He found much difficulty in advising students what to do. The objection to Credé's method was that it always produced some conjunctivitis. This was really only a trifle, but from a mother's point of view it was a great thing; and a young practitioner who gave people occasion to say of him that he always did something to newly born children which inflamed their eyes would be much handicapped in practice and he could not explain to his patient that he did it lest the eyes should be infected with gonorrhœa. He thought that the best thing to teach was that the practitioner should inquire into the presence or not of vaginal discharge and if there was discharge or any history or symptoms suggesting the possible presence of the gonococcus he should use nitrate of silver, but if there was no suspicion of gonorrhœa he should be content to use 1 in 2000 sublimate solution.

Dr. WALTER C. SWAYNE said that he wished to emphasise Dr. Herman's point about the young practitioner. Having the supervision of a maternity charity in which, as in all the London hospitals with medical schools attached, the work was carried on by students, he felt certain that the work would fall off if it was found that the use of Credé's method, although it was universally acknowledged to be the best, gave the public the opportunity of saying that the babies got sore eyes in consequence. On this account in the maternity department a weak solution of corrosive sublimate was used instead of nitrate of silver. He also thought that it would be interesting to hear the experiences of others in large provincial towns.

Mr. E. TREACHER COLLINS pointed out that one circumstance which rendered newly born children liable to ophthalmia was that they secreted no tears. If the conjunctiva immediately after birth was simply washed with water it had been shown that the number of cases of ophthalmia were reduced, but if a sufficiently powerful bactericidal fluid was used they could almost entirely be done away with. It was satisfactory to know that the amount of ophthalmia neonatorum was decreasing. When a case of ophthalmia neonatorum came under his care he was in the habit of asking if the mother had been attended by a medical man or a midwife. He was sorry to say that he found nearly half the cases had been attended by medical men. This, he thought, showed that the profession generally did not yet realise the great value of employing prophylactic measures against this disease. Ophthalmia neonatorum was not only preventable but might be cured without loss of sight if dealt with sufficiently early and skilfully treated. Obviously midwives could not be trusted to undertake such treatment. Unfortunately he often found that valuable time was lost by mothers using lotions suggested by them. He asked if it would not be possible for the Midwives Board, now drawing up rules for midwives, to make it compulsory for them to call in a medical man to a case occurring in their practice or to notify it to the medical officer of health of the district.

Dr. W. S. A. GRIFFITH wished to thank Mr. Stephenson for his valuable paper and hoped that it would convince the council of the society of the need of revising its directions to midwives in regard to this matter. His experience at Queen Charlotte's Hospital had convinced him of the undoubted superiority of the nitrate of silver and he regarded the very small percentage of imperfect results not as failures of the method but as failures in carrying it out. At the same time in his private practice he did not use it as a routine procedure, being satisfied to use it in all cases in which he suspected gonorrhœal infection, and for the rest he was satisfied thoroughly to cleanse the eyelids, nose, and lips with an ample wash of a 1 in 1000 solution of mercuric iodide as soon as the head was born and before the child opened the eyes or attempted to breathe, and he had no reason to be dissatisfied with the results. Dilute mercury solutions, 1 in 2000 or 1 in 4000 or less, were utterly untrustworthy. Boric acid solutions were little better than plain water.

Dr. C. J. CULLINGWORTH said that in advocating legislation for improving the training and controlling the practice of midwives he had always regarded the prevalence of blindness due to preventable causes as one of the strongest and most telling arguments and he had frequently made use of it. With regard to the modes of infection enumerated by

Mr. Stephenson, no doubt, as he himself had said, the ordinary source of infection was the presence of gonorrhœal secretion in the vagina of the mother at the time of parturition, but this was not the only source. He (Dr. Cullingworth) remembered being present many years ago at a Cæsarean operation resulting in the birth of a living child who in the course of a day or two presented all the symptoms of an acute purulent ophthalmia. He was not sure that he could quote chapter and verse for the statement, for he was uncertain whether the case had been published. It was a matter about which, however, he was not likely to be mistaken, as it created much interest at the time from being so contrary to all that was then believed and known on the subject. In that case it was manifest that whatever the source of infection it was not the secretion of the maternal passages. The question of preventive measures interested him more particularly on account of his happening to be a member of the Central Midwives Board, the body which had been intrusted under the new Midwives Act with the duty of formulating rules and regulations for the training and practice of midwives in this country. The rules which had been drawn up were now in the hands of the Privy Council and had not yet assumed their final shape. It was therefore impossible to say whether, when they came to be published, they would be found to contain a satisfactory injunction with regard to the disinfection of the child's eyes or not. For his own part he sincerely hoped they would. He had not been aware until quite recently of the great divergence of opinion that existed in the medical profession as to the need for, and wisdom of, such a measure. He trusted that the paper just read would do much to remove this divergence. With regard to the particular solution to be recommended he was glad that Mr. Stephenson, whilst upholding the nitrate of silver solution as the best, spoke highly of the efficiency of the solution of corrosive sublimate, which undoubtedly for ordinary use had certain advantages. It was important, for example, not to render it compulsory for a midwife to carry more than one kind of antiseptic. To make her carry several kinds not only tended still further to overburden her already overburdened bag but was also in danger of confusing her mind. If it was desired that the use of antiseptics in midwifery should become general the instructions for their use must not be too complicated. It was all very well in hospital when the solutions are all in readiness and supervision is constant. There, by all means, let the ideally best method be carried out. But let them imagine, on the other hand, the district midwife in a remote country place where her loyal efforts to carry out in full detail the methods in which she has been trained are not seldom ridiculed instead of being encouraged by the neighbouring practitioner upon whom she is dependent for help in her difficulties. Let them imagine what would be said if, in addition to the ordinary basins of antiseptic solution—far too often an object of contempt and ridicule—she produced a little phial of nitrate of silver eye drops. The contempt and ridicule would know no bounds and there would be a fear lest the poor woman should, in her bewilderment and despair, give up all attempts at antisepsis. For these reasons amongst others he thought that for general use in the homes of patients the solution of corrosive sublimate, though it might not be ideally the best, was the most suitable. In the rules about to be issued by the Central Midwives Board, although the use of antiseptics was repeatedly enjoined, it had been thought undesirable to go into details as to the kind and strength of the antiseptic to be used. For all such details would require to be modified as knowledge advanced and it would be inconvenient to have them embodied in rules which, when approved by the Privy Council, would have the effect of law and would be difficult to alter. Might he mention, by way of illustration, the solution of the biniodide of mercury, to which several speakers had alluded. He was informed by competent chemists that the efficiency of solutions of the salts of mercury depended upon their ionisation and that ionisation only occurred satisfactorily in simple watery solutions of one mercurial salt. If another salt was present ionisation was interfered with. Now it was well known that iodide of mercury was almost insoluble in plain water, but was freely soluble in a solution of potassium iodide with which it was almost invariably combined. Hence it was doubted by chemists whether the ordinary solution of the biniodide of mercury, not being a simple aqueous solution, had any antiseptic value.

Dr. AMAND J. M. ROUTH asked if in the recorded cases of congenital (intra-uterine infection) gonorrhœal ophthalmia infection of other mucous membranes had been observed and also whether changes in the liquor amnii had been observed.

Dr. PETER HORROCKS said that up to five years ago when he was seeing out-patients in the gynæcological department at Guy's Hospital he used to send specimens to the bacteriological department. He did not remember to have been assisted in the diagnosis of gonorrhœa in a single instance. Pus was taken from the urethra, the vagina, and the cervix uteri. In cases of undoubted gonorrhœa often enough the report was negative and no gonococci could be found. When gonococci were found it was only when the case was clearly one of gonorrhœa and where there was no difficulty at all in the diagnosis. In cases of chronic vaginitis where it would have been a real help the bacteriologists could find no gonococci. Mr. Stephenson had stated that 10 per cent. of children suffered from ophthalmia and he thought that this was too high a percentage, particularly in places where modern aseptic midwifery was practised. But even if it were so high, that would leave 90 per cent. of children who did not suffer from ophthalmia. Obviously, when routine measures of dropping germicidal solutions into the eyes of every newly born child were adopted, they did no good at all in 90 per cent. of cases. If it could be shown conclusively that they did no harm he would join in advocating these routine prophylactic measures. But he did not think it had been proved that no harm was ever done by this routine treatment and therefore they had to consider whether 90 per cent. of children should be put to some risk for the sake of benefit to the other 10 per cent. He did not see why a selection should not be made and only those children treated where there was a suspicion of gonorrhœa in the mother or of a commencing ophthalmia in the child. This would save at least 90 per cent., probably considerably more, from any such treatment. He thought that not only experts like obstetricians but also the rank and file of the profession could tell with great accuracy whether a woman was healthy or not. Very few mistakes would be made and even if a gonorrhœa were latent and only showed itself by ophthalmia beginning in the child, such a case would be extremely rare and could be at once treated and in all probability effectually cured.

Dr. R. BOXALL considered that strong reasons existed for the adoption of routine measures for the prevention of ophthalmia neonatorum and more particularly in the practice of students and midwives. Mention had been made of 10 per cent. as representing the incidence of the disease when no prophylactic measures were taken. But even were it 3 per cent., or even less, he saw good grounds for adopting a routine practice of prevention. Among these he desired to draw attention to the distinct advantage in the prevention of ophthalmia which he had noted years ago at the General Lying-in Hospital following the routine use of sublimate vaginal douches before delivery, at a time when no systematic antiseptic treatment of the infant's eyes was carried out. At the present time, as a routine practice, the infant's eyes were freely flushed with a 1 in 4000 sublimate solution at the time of delivery, which probably brought to bear on the conjunctival surfaces about the same amount of antiseptic as one minim of 1 in 100 solution dropped directly into the eye and had the additional advantage of mechanically washing away any discharge which might have found lodgment between the eyelids.

Dr. A. W. SIKES said that he thoroughly agreed with Dr. Boxall as to the necessity for the routine treatment of children's eyes in hospitals and by midwives. One point, the difficulty of which he thought had been very much overestimated by one at least of the previous speakers, was the detection of the gonococcus. With regard to the examination for gonococci in the vagina, Dr. Sikes mentioned that his experience was that the most certain way of finding the organism was by taking a scraping with the wire loop directly from the cervix, using a Ferguson's speculum to get a clear view. Many cases clinically gonococcal were missed because the cover-slip preparation was so often made from the pus about the entrance to the vagina. Dr. Sikes insisted on the early bacteriological examination of all sore eyes in newly born children and also of any vaginal discharge in the mother, so that if gonococci were found even greater care might be taken so as to prevent the cases arising by infection from the mother after birth.

Dr. CUTHBERT H. J. LOCKYER mentioned the experiments which had been conducted in the obstetric wards

of the Bonner Frauenklinik by Fritz Engelmann, in which, having regard to the results obtained by Cramer with nitrate of silver, Engelmann employed protargol as a substitute and found that by using a 2 per cent. solution of this salt he got the equivalent prophylactic action to that of 2 per cent. nitrate of silver, but without exciting anything like so much inflammatory reaction. Whilst Cramer found no reaction in only 4 per cent. of cases with a 2 per cent. solution of nitrate of silver, Engelmann could boast of 80 per cent. of cases in which protargol was employed without any sign of irritation. In no instance was secondary catarrh noted, whereas that trouble was met with in 11 per cent. of Cramer's cases. Bischoff, Engelmann's successor at Bonn, used a 1 per cent. solution of acetate of silver, which he regarded as equal to 2 per cent. nitrate of silver in germicidal activity, and considered that the so-called "silver reaction" was so harmless and slight as to present no argument against the eye instillation as practised by Credé.

Mr. STEPHENSON, in reply, said it was significant that notwithstanding the various opinions expressed no single instance had been brought forward during the discussion where bad results had followed the adoption of Credé's method. He was convinced that it was the best available plan of prophylaxis and he appealed to the society to recommend it for general adoption. As to the prophylactic use of corrosive sublimate, mentioned by several speakers, Mr. Stephenson said that the results so far obtained with a 1 per cent. solution (as with a 22 per cent. solution of protargol) were excellent but the figures available were not yet large enough to allow one to recommend its general adoption. Besides, by some observers sublimate was thought to be detrimental to the corneæ of babies. In Mr. Stephenson's experience a 2 per cent. solution of nitrate of silver kept well enough, provided that it was placed in an amber-coloured bottle and kept away from the light.

DERMATOLOGICAL SOCIETY OF LONDON.—A meeting of this society was held on July 8th, Dr. J. A. Ormerod being in the chair.—The following cases were exhibited. Mr. Willmott H. Evans showed a medical man who had suffered for some years from Xanthoma Tuberosum of both elbows. These had been treated by exposure to the x rays emanating from a three-inch spark tube with the result that after a slight superficial dermatitis had occurred the entire lesions had disappeared.—Mr. Donald J. Armour (introduced) showed a woman, a laundress by occupation, who had suffered from a deep, suppurating and infiltrated dermatitis for three months, the general opinion being that the case was one of tuberculosis cutis.—Dr. J. J. Pringle showed (1) a woman, aged 24 years, with a number of small pale tumours in the skin from the size of a hemp seed to that of a small pea. The little tumours had existed for eight years, were painless, very hard, and showed no signs of inflammation. It was agreed that a definite diagnosis could not be made without microscopic examination, but most of the members thought they would prove to be either milium or benign cystic epithelioma. 2. A woman, aged 49 years, who had suffered from Erythematous Lesions with a good deal of swelling for 18 years. The eruption was of a dark-red colour, showed elevation into small gyrate patches and rings, and was situated on the wrists, elbows, knees, and thighs. In some cases the lesions had flattened and left a state of marked lichenification. The history seemed to indicate that the eruption began with a sore on the lip and a generalised rash on the body. In spite of this all were agreed that the lesions were not syphilitic, most being of opinion that the disease was of the class known as erythema perstans.—Dr. F. G. Penrose showed two cases of Raynaud's Disease in children, in one of which there was only left ulceration of the margins of the ears, while in the other there was a swollen and nodular condition of the hands suggestive of the disease known to the French as lupus pernio. There was no evidence of tuberculosis present.—Dr. A. Whitfield showed a boy, aged 13 years, suffering from well-marked Follicular and Verrucose Lichen Planus on the Knees and Shins of eight years' duration, while over the styloid process of the right ulna, dating from the same time, was a circular, hard, red, nodular patch with some horny thickening exactly resembling tuberculosis verrucosa cutis. The question was whether this was an anomalous patch of lichen planus, as believed by the exhibitor, or whether the boy had in reality two diseases. Most of the members thought that the patch on the wrist was tuberculous.—Dr. H. G. Adamson showed a child with some Scarring Erythematous Lesions of the Ulnar Borders of the Hands which had been present 12 months and had been much worse in the winter. The opinion of some was that it was an ill-defined case of lupus erythematosus.—Dr. Ormerod showed a man, aged 75 years, who had developed within the last two years a number of small Purplish-black Cutaneous Tumours on the Lower Extremities and some flat discoloured patches. The disease was considered to be allied to Kaposi's idiopathic multiple sarcoma.—Dr. H. Radcliffe Crocker showed a man, aged 35 years, with Scattered Nodules over the Face and Groups of the Same on the Right Clavicular and both Extensor Regions of the Arms. The disease had existed for four weeks and had developed while the patient was in the country and in good health. The diagnosis offered was that of acne agminata and the nomenclature gave rise to some discussion.

ODONTOLOGICAL SOCIETY OF GREAT BRITAIN.—The officers of this society for the ensuing session have been elected as follows:—President: Mr. Arthur S. Underwood. Vice-Presidents: Resident—Mr. W. H. Woodruff, Mr. E. G. Betts, and Mr. L. Matheson. Non-resident—Mr. W. B. Bacon (Tunbridge Wells), Mr. H. B. Mason (Exeter), and Dr. J. Arkövy (Budapest). Treasurer: Mr. C. F. Rilot. Librarian: Mr. H. Baldwin. Curator: Mr. J. F. Colyer. Editor of Transactions: Mr. H. Lloyd Williams. Honorary Secretaries: Mr. J. H. Mummery (foreign) Mr. M. F. Hopson (council), and Mr. G. Hern (society). Councillors: Resident—Mr. R Denison Pedley, Mr. J. Percy Smith, Mr. A. Hopewell-Smith, Mr. E. J. Preedy, Mr. Carl Schelling, Mr. W. Rushton, Mr. H. W. Messinger, Mr. J. B. Parfitt, and Mr. D. P. Gabell. Non-resident—Mr. J. J. H. Sanders (Barnstaple), Mr. E. A. Bogue (New York), Mr. J. L. F. J. Pike (Sheffield), Mr. G. W. Watson (Edinburgh), Mr. Kevin E. O'Duffy (Dublin), Mr. John E. Grevers (Amsterdam), Mr. J. C. Foran (Eastbourne), Mr. W. S. Holford (Sutton), and Mr. E. O. Fergus (Glasgow).

Reviews and Notices of Books.

Squint. By CLAUD A. WORTH, F.R.C.S. Eng. London: John Bale, Sons, and Danielsson. 1903. Pp. 229. Price 6*s.* net.

THIS is an excellent work on the causes, pathology, and treatment of squint. Since 1893 the author has kept detailed notes of every case of squint that has come under his observation. Out of 2337 cases of squint and hyperphoria 1729 patients suffered from convergent squint, and this book is the outcome of the author's personal observations. In cases of monolateral convergent squin the usual routine treatment by glasses and operation gives extremely unsatisfactory results. In about one-third of these cases the wearing of glasses causes the eyes after a time to become "straight." In the other two-thirds the deformity may be more or less removed by operation. But more often than not the deviating eye becomes very blind and the acquisition of any sort of binocular visicn is quite the exception. On the other hand, the author claims that cases of monolateral squint in which treatment is commenced early and carried out by the methods described in this book are nearly always perfectly cured, having good vision in each eye and good binocular vision. The two definite theories that have been suggested as to the causation of squint are: (1) a shortening of the internal recti, and (2) Donders's accommodation theory. After dismissing the first in a few paragraphs the author shows that though hypermetropia is an important factor it cannot be the essential cause of the anomaly. He then lays down his proposition, for which he gives ample proofs afterwards, that in addition to the deformity there is always a defect of the fusion faculty, and there is nearly always a suppression of the vision of the deviating eye. Consequently

in the treatment of a case of squint the surgeon must endeavour (1) to restore the vision of the amblyopic eye, (2) to remove the fundamental cause of the squint by training the fusion sense at the earliest possible age, and (3) to restore the visual axes to their normal relative directions. The five therapeutic measures at his disposal are: (1) optical correction of any refractive errors that may be present, (2) occlusion of the fixing eye, (3) instillation of atropine into the fixing eye only, (4) training the fusion sense, and (5) operation. Mr. Worth opposes most strongly the "disastrous practice recommended in books of ordering atropine for *both* eyes for children who are supposed to be too young for glasses." As the deviating eye is usually the more ametropic this is the very way to insure that the amblyopic eye shall never be used and consequently it becomes almost hopelessly blind. The author's method of training the fusion sense by means of the amblyoscope is very well described and the results that he has obtained by this method are most striking. The amblyoscope is a sort of stereoscope that permits the fusion of the two images, however widely separated they may be, by bringing the two halves of the instrument together to suit a convergence or by separating them to suit a divergence of the visual axes. This is a very much simpler plan than that of attempting to correct the deviation by additional prisms inserted into the stereoscope. We should think that Mr. Worth has more patience than most of us possess. He says that "the education of the fusion faculty between three and five years of age is very rapid, easy, and charming in its results." He reserves operations of advancement and tenotomy for those cases in which the deviation is not overcome by other means. One question is often asked: "As the deviation is not due to a defect of the muscles why should one ever seek to remedy this deviation by shortening a muscle?" In reply to this he uses this illustration: "One is driving a pair of horses. Suppose the offside horse has a habit of boring to the left. If any cause can be found (such as a sore shoulder) one may cure the habit by removing the cause. If not, it is a reasonable proceeding to overcome his deviation to the left by shortening the offside branch of the right rein." The subject of divergent squint and heterophoria are well dealt with, and a series of illustrative cases and a description of the technique of the operations conclude this eminently practical book.

In future editions we should like to see greater care in defining the angle gamma and the difference between the fixation line and the visual line to be pointed out. The angle gamma is that between the fixation line and the optic axis, not that between the visual line and the optic axis of the eye, which is termed by those authors, who consider it worthy of a special name, the angle beta. However, as the angle gamma is subtended at the centre of motility of the eye, and the angle beta at the nodal point, there is very little difference between them. Again, we prefer the term periphoria to that of cyclophoria for the tendency of one eye to rotate about an antero-posterior axis. We most heartily congratulate Mr. Worth on the production of this valuable addition to ophthalmic literature.

La Logique Morbide: l'Analyse Mentale. (*The Logic of the Diseased Mind: Mental Analysis.*) By N. VASCHIDE, Director of the Laboratory of Experimental Psychology, Villejuif; and C. VURPAS, Resident Physician at the Villejuif Asylum. Paris: F. R. de Rudeval et Cie. 1903. Pp. xxviii.–268. Price 4 francs.

WITHIN the compass of this volume of 270 pages the authors seek to study the mental activities and processes of thought of those persons who, as the result of cerebral or mental disease, are the victims of persistent self-analysis. Many interesting types of morbid mental action are analysed and discussed in some detail in the present volume with that clearness and grace of exposition which are characteristic of the French school of psychological medicine. The subjects under discussion comprise morbid introspection concerning the bodily organs and ranging from mild hypochondriasis to established delusions, morbid analysis of the ego or patient's own mind, the tendency to exaggerated and persistent mental pre-occupation with regard to ordinary or insignificant objects in the environment, and the habit of mind which is prone to develop delusions and disorders of the sense of personal identity.

The authors propound a psychological classification of patients into those with diminished power of mental analysis and those with exaggerated mental action. In the first category are included cases of general paralysis, dementia præcox, and other forms of dementia which are characterised by diminished power of association of ideas and a general enfeeblement of mental images. Idiocy and imbecility are regarded as representing arrests of mental evolution at low levels whereby the association of ideas and of mental images is rendered imperfect and rudimentary Suggestive theories are similarly put forward to explain the psycho-pathological characteristics of mania, melancholia, mental confusion, and the systematised delusions of paranoia. The space given to these psychoses is, however, small and while much of the psychology is speculative the basis of clinical facts and observations which should form the groundwork of all such speculation is not presented or handled with anything like the fulness it demands. The work is, however, a stimulating and suggestive one and should prove helpful to alienists and students of mental pathology.

The Ocular Circulation. By J. HERBERT PARSONS, B.S., B.Sc. Lond., F.R.C.S. Eng. London: John Bale, Sons, and Danielsson, Limited. 1903. Pp. 76. Price 3*s.* net.

IT is with extreme pleasure that we welcome the publication of Mr. Parsons's lectures on the ocular circulation. The first 32 pages are devoted to a careful examination of the ocular circulation in lower animals, showing that as we ascend the animal scale the general tendency is for the principal ophthalmic artery, which in the lower animals is derived from the external carotid, to be derived from the internal carotid. As all experimental investigation must be made upon the lower animals it is essential to determine accurately the differences which obtain. The next 20 pages are devoted to an account of the various experiments performed by the author for the purpose of throwing light upon the difficult problem of the mechanism that brings about the normal intraocular tension, which is about 25 millimetres of mercury above the atmospheric pressure. Especially interesting is his conclusion that the rise of intraocular pressure from stimulation of the cervical sympathetic is due to pressure exerted upon the globe by the contraction of unstriped muscle contained in the orbit and innervated by the cervical sympathetic. This fully explains the discouraging results of extirpation of the superior cervical ganglion for glaucoma. Changes in the general blood pressure are found to influence the ocular tension profoundly; indeed, from the evidence adduced the aqueous fluid must now be considered rather as lymph than as a fluid secreted by the glands in the ciliary body that were so ably demonstrated by Mr. E. Treacher Collins. A new suggestion is made as to the cause of optic neuritis on pages 66–67, for which we must refer our readers to the pamphlet. The book is praiseworthy in every way; there are more than 50 references to other publications and the author's original work is extremely careful and scientific. The author has shown remarkable skill in conveying so much information and in describing his experiments so clearly in the short space of 76 pages.

LIBRARY TABLE.

Elementary Photo-micrography. By WALTER BAGSHAW. London: Iliffe and Sons, Limited. 1902. Pp. 68. Price 1*s.*—Photo-micrography is a pleasant, and at times a most useful, variant upon ordinary photography and every microscopist should know how to take a photo-micrograph. In Mr. Bagshaw's little book he will find every instruction necessary, and although at first starting he is sure to meet with many failures, yet with practice and strict attention to Mr. Bagshaw's details he should eventually meet with success. The book is illustrated with specimens of photo-micrographs which show what this form of photography is capable of.

The Surgical Treatment of Ulcer of the Stomach. By C. W. MANSELL MOULLIN, M.D. Oxon., F.R.C.S. Eng. London: John Bale, Sons, and Danielsson, Limited. 1902. Pp. 53. Price 2*s.* 6*d.*—This little book is, in the author's words, not a treatise on gastric ulcer generally, nor does it deal with the complications which so frequently follow in that disease. It is merely a collection of papers on gastric ulcer as it appears during life from a surgeon's point of view. The argument of the whole book is "that if only properly selected cases of ulcer of the stomach were treated surgically before the condition of the patient has been allowed to become hopeless many lives that are now sacrificed would be saved and an enormous amount of pain and suffering would be prevented." As a general rule, cases of gastric ulcer are not operated upon except for perforation, and then, as Mr. Moullin says, "the operation is performed because of the perforation and not because of the ulcer. If possible the ulcer should be secured before it has perforated." The indications which lead Mr. Moullin to operate are persistent pain and vomiting, hæmorrhage, or threatened perforation. With regard to this last Mr. Moullin confesses that our knowledge of the premonitory signs of perforation is very small. He attaches most importance to tenderness on pressure associated with cutaneous hyperæsthesia in Head's epigastric triangle. Mr. Moullin's arguments are backed up by an account of 13 cases in which he operated for one or other of the indications mentioned above. Of this number two patients died, in one no ulcer could be found, nine recovered completely, and one recovered from the operation but shortly afterwards the pain and vomiting reappeared. Though we agree with the statement of Mr. Moullin that it is too much to expect that his conclusions will be accepted generally or at once, yet we are of opinion that there is much to be said in favour of his contentions and his book, in which he does not seek to minimise his failures, should be widely read.

Preparations for Operations in Private Houses. Written for the Nurses Coöperation. By CUTHBERT S. WALLACE, M.B. Lond., F.R.C.S. Eng. London: H. J. Glaisher. 1903. Pp. 24. Price 1*s.*—The success of a surgical operation nowadays depends upon the coöperation of so many factors that it is impossible for anyone concerned to be too careful. Mr. Wallace has written a very clear and succinct account of the preparations needful to secure success in an operation in a private house. Nothing, so far as we can see, has been forgotten, and we are glad to note that in the various methods, seven in number, for the preparation of the patient's skin, details common to more than one method have been repeated in each several description. This is a very practical little pamphlet.

Rules of the Lincolnshire Medical Benevolent Society. J. E. C. Potter, Stamford. 1903. Pp. 57.—We have received a small pamphlet which marks the centenary of the Lincolnshire Medical Benevolent Society. This society was founded by Dr. Edward Harrison of Horncastle, who was born in 1766 and died in 1838, and was a singularly enlightened member of his profession. In particular, Dr. Harrison had most advanced views on the subject of medical reform as may be seen by a series of motions proposed by him "at a numerous and respectable meeting of the Lincolnshire medical practitioners," held in the Bull Inn, Horncastle, on Sept. 7th, 1805, and unanimously adopted by the assemblage. These resolutions are condemnatory of such professional grievances as the low scale of medical fees sanctioned by judicial determination, the impunity of quacks, and the untrustworthiness of druggists. The necessity of a properly kept medical register was foreshadowed by Dr. Harrison 55 years before the constitution under the Medical Act of 1858 of the General Medical Council in an address which he read to this "respectable meeting" on the same occasion and which proves him to have been imbued with the true spirit of the reformer. The Lincolnshire Medical Benevolent Society is right to bring before the medical profession the interesting personality of its founder.

The Progress of the British Empire in the City. By JAMES STANLEY LITTLE. London: Messrs. W. and R. Chambers, Limited. 1903. Price 5*s.*—Mr. James Stanley Little's able little book upon the progress of the British Empire, which formed an early volume in the Nineteenth Century Series brought out under Mr. Justin McCarthy's editorship, is being re-issued, and as the author lays stress on the absolute necessity of arriving at a common fiscal policy for the whole Empire it is of particular interest at the present moment. Several chapters deal directly with political tendencies which have culminated in Mr. Chamberlain's policy, about which so much discussion now revolves. In short, the book may be used as a guide by which the non-political public may form an opinion for themselves upon the question which is now agitating all parties of British politics and concerning which no very definite pronouncement has yet been received by the country from any leaders of thought. Mr. Stanley Little is on the side of the Colonial Secretary, for he advocates a revision of our fiscal system and the imposition of such duties on food-stuffs as will make agriculture in England profitable (what are these duties?); and his views are given together with a succinct account of the various movements which have had the effect of bringing the Empire to its present eminence, so that the reader has the material before him from which to form his opinions. His inferences may not necessarily be the same as the author's.

JOURNALS AND MAGAZINES.

The Journal of Physiology. Edited by Sir MICHAEL FOSTER, F.R.S., and J. N. LANGLEY, F.R.S. Vol. XXIX., No. 6. London: C. J. Clay and Sons. June 16th, 1903. Price 3*s.*—This part is occupied with two articles, the first of which is by Dr. F. W. Pavy, Dr. T. G. Brodie, and R. L. Siau, on the Mechanism of Phloridzin Glycosuria, illustrated by four figures in the text. The second is by Dr. Leonard Hill and Dr. J. J. R. Macleod on the Influence of Compressed Air on the Respiratory Exchange. The chief conclusion arrived at by Dr. Pavy and his fellow workers is that the presence of phloridzin causes the renal cells to exert a katabolising action upon something brought to them by the blood, which results in the liberation of dextrose. Dr. Hill and Dr. Macleod find that compressed air at a pressure of four atmospheres and upwards diminishes to a marked extent the carbon dioxide output in mice, very greatly lessens the elimination of water, and increases the loss of body heat.

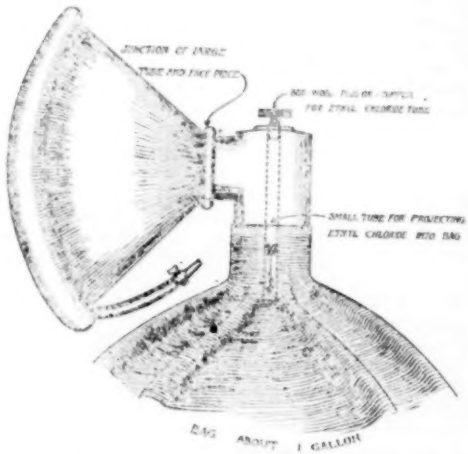
The Journal of Anatomy and Physiology. Conducted by Sir WILLIAM TURNER, F.R.S., D. J. CUNNINGHAM, F.R.S., G. S. HUNTINGTON, M.D., A. MACALISTER, F.R.S., and J. G. M'KENDRICK, F.R.S. Vol. XXXVII. New Series,

Vol. XVII., Part VI. July, 1903. With plates and figures in the text. London: Charles Griffin and Co., Limited. Price 6s.—The following articles are contained in this number. 1. On the Meaning of Some of the Epiphyses of the Pelvis, by F. G. Parsons, lecturer on human and comparative anatomy at St. Thomas's Hospital. Mr. Parsons shows that the epiphysis of the tuberosity of the ischium in man corresponds to the hypoischium of the reptile, and the epipubic prolongation of the symphysis pubis to the epipubis of the reptile. 2. On the so-called "Gyrus Hippocampi," by G. Elliot Smith, professor of anatomy, Egyptian Government School of Medicine, Cairo. Dr. Smith considers that the "uncinate" or "hippocampal" gyrus is split up into four separate areas: the paradentate gyrus, the area pyriformis, the nucleus amygdalæ, and a hippocampal part, founding his statements on a study of the comparative anatomy of this part. 3. Notes on the Morphology of the Cerebellum, by G. Elliot Smith. 4. A Preliminary Communication on Some Cephalometric Data bearing upon the Relation of the Size and Shape of the Head to Mental Ability, by Reginald J. Gladstone, senior demonstrator of anatomy, Middlesex Hospital, London. Dr. Gladstone gives statistical tables which show a distinct correlation between the large size of the head and a high degree of mental ability, this correlation being both absolute and relative to the general size and weight of the body. In adults the increase in the size of the head appears chiefly in the vertical diameter; in boys the increase is chiefly in the longitudinal diameter. 5. The Form Relations of the Dilated Cerebral Ventricles in Chronic Brain Atrophy, by J. O. Wakelin Barratt, with eight woodcuts in the text showing the extent and position of the enlargement. 6. Abnormalities in the Sacral and Lumbar Vertebræ of the Skeletons of Australian Aborigines, by W. Ramsay Smith of Adelaide. 7. Rudimentary Condition of the Carotid Canal, by G. H. K. Macalister, B.A. 8. Some Peculiar Features in a Temporal Bone, by P. P. Laidlaw, St. John's College, Cambridge. 9. Notes on a case of Feather-bifurcation, by W. J. Rutherfurd, University of Glasgow. Dr. Rutherfurd suggests that the largely increased number of rectrices in fantail pigeons was evolved from the bifurcation or trifurcation of these feathers. 10. On the Occurrence of a "Principal Islet" in the Pancreas of Teleostei (preliminary note), by John Rennie, university assistant in zoology, Aberdeen. 11. On a Method of Preparing the Membranous Labyrinth, by Albert A. Gray. Exposure to different strengths of alcohol or xylol, imbedding in paraffin, and decalcification with a mixture of hydrochloric and nitric acids are the chief means employed. 12. Two Hearts showing Peculiarities of the Great Veins, by David N. Nabarro, with several illustrations. 13. The General Characters of the Crania of the People of Scotland, by Sir William Turner, F.R.S. This part contains the index and title-page of the volume and the Proceedings of the Anatomical Society of Great Britain and Ireland.

New Inventions.

ETHYL CHLORIDE NARCOSIS.

IN THE LANCET of June 13th, p. 1677, Mr. R. H. Jocelyn Swan describes an ingenious apparatus for use in the administration of somnoform. I have been experimenting with ethyl chloride and what might be termed the more volatile anæsthetics for about two years and have come to the conclusion that almost no apparatus beyond an ordinary Clover's inhaler is needed for administering them satisfactorily, and with the face-piece and rubber bag of a Clover minus the ether chamber I have had the very best results. I found that if the anæsthetic was sprayed through the face-piece itself, however, into the bag some always remained in a fluid state around the inside of the face-piece, and on applying the inhaler patients almost invariably held their breath. Accordingly I began to think of some means of getting the ethyl chloride down into the bag by a separate access and one which could be used whether the inhaler was applied or not. The solution was very simple and consisted in boring a hole on the upper side of the horizontal limb of the elbow tube (joining the bag to the face-piece) and fixing a narrow tube about three-sixteenths of an inch in diameter and one and a half inches long, so as to pass down in the lumen of the larger tube into the bag. A small plug of boxwood or vulcanite was adapted to this and the apparatus was completed. This modification can be carried out at a trifling cost on any ordinary pattern of Clover's inhaler and the



A simple apparatus for the administration of ethyl chloride made by a slight modification of the bag and the face-piece of Clover's inhaler.

advantages of it are great. The *modus operandi* is as follows. The ether chamber having been put aside the face-piece is fixed on to the metal junction-tube of the bag and the plug is removed. The inhaler is then adapted to the patient's face and he is asked to breath easily to and fro. As soon as his confidence is established the nozzle of the ethyl-chloride cylinder is inserted into the end of the access tube and the anæsthetic sprayed into the bag, from three to eight cubic centimetres being used, according to the length of the anæsthesia desired and the age and the physique of the patient. The plug is again inserted as soon as a suitable dose is supplied. The patient is allowed to inhale the vapour, which is invariably done without any choking or holding of the breath, and probably anæsthesia is rapidly attained, but if the dose be not sufficient and the anæsthesia be not deep enough a further quantity of ethyl chloride may be sprayed in without removing the inhaler or wasting any time. The liquid ethyl chloride falls to the bottom of the bag and there is no possibility of the patient getting any of the drug in a liquid state or any concentrated vapour into the air-tube or face-piece.

I have used this little arrangement now in a great many cases and with uniform success. It is equally suitable for short operations on the mouth, &c., or for larger operations elsewhere. If a prolonged anæsthesia is desired, however, it is better to put on the ether chamber and to use the ethyl-chloride-ether sequence. I think the use of any lint or cotton fabric in an inhaler for the volatile anæsthetics is to be deprecated for I have found that such fabrics frequently freeze and cause considerable waste of the drug and disappointing results. In conclusion, may I enter a mild protest against the wholesale advocacy of anæsthetic drugs bearing what are really proprietary names, such as "somnoform," "narcotile," "kélène," &c., in articles in medical and scientific journals? Personally I have used them all, but I can find no perceptible difference in results from those

obtained when "pure chloride of ethyl," sold as such, is used. And this drug, which we may call "chlorethyl" for short, prepared by a firm of repute, seems to answer every purpose. Kélène is stated to be nothing more than pure chloride of ethyl by the proprietors. Narcotile is, I believe, a mixture of ethyl and methyl chlorides, while somnoform, which has been boomed more than either, is stated to be chlorethyl, 65 per cent.; chlormethyl, 30 per cent.; and bromethyl, 5 per cent., and is, at any rate theoretically, objectionable from the presence of the last-named unstable substance. The objection may be very largely theoretical, for so far as we know no fatalities have as yet resulted from its use, but it is known that the after-effects on patients vary with different bottles and when "a fag end" is used[1] prolonged stupor and vomiting are more common. I think it may be fairly stated that the anæsthesia produced by the use of kélène, narcotile, or somnoform is simple ethyl chloride anæsthesia and no other and it appears to me to be as little necessary to use these names when treating of anæsthesia in medical literature as to prescribe "pil. ferri" under the soubriquet of "pink pills," &c.

THOMAS D. LUKE, M.B., F.R.C.S. Edin.,
Instructor in Anæsthetics, Royal Infirmary, Edinburgh.

A REGULATING INHALER FOR GAS AND ETHER.

FOR many years it has been obvious that in teaching the use of ether as a general anæsthetic, especially in combination with nitrous oxide gas, a simpler form of regulating apparatus was required with larger breathing channels than those in former use. Lightness and portability, combined with a greater adaptation to the needs of powerfully built patients—namely, a large yield of ether vapour mixed with air when required—were some of the desiderata to be secured. Messrs. G. Barth and Co., of 54, Poland-street, Oxford-street, London, W., have made for me a form of stopcock of wide calibre with a collar and inhaling bag to hold an ether sponge which is capable of fitting the face-pieces sold by them for both Clover's ether inhaler and

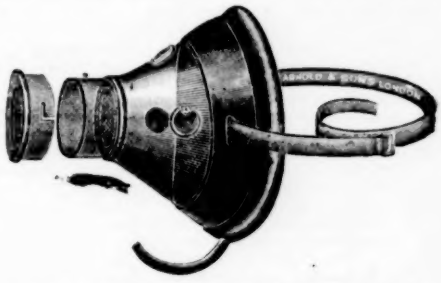
for Hewitt's gas apparatus. This latter also fits into the stopcock for the administration of nitrous oxide with ether during the induction of anæsthesia. The new stopcock and bag only are therefore required to convert the gas apparatus into a regulating ether inhaler suitable for every type of patient for whom ether is an appropriate anæsthetic. I have myself used the apparatus in over 100 surgical and dental cases and regard it as capable of overcoming many of the drawbacks of Clover's and Ormsby's inhalers by combining their valuable qualities in the smallest workable size. To administer nitrous oxide and ether, the metal collar of the inhaling bag having been detached from the stopcock, a honeycomb sponge (of the size of an orange) which has been wrung out of warm water, should be arranged inside the sponge-cage and, for an adult patient, one and a half ounces of ether should then be poured upon it. The handle of the stopcock is now turned to "E off" and the bag-collar is attached to it by its bayonet catch. A suitable face-piece is then fitted to the proximal side of the stopcock and Hewitt's gas apparatus two-thirds full of nitrous oxide is fitted to the distal side. The apparatus is now ready for the patient. When the face-piece is applied five breaths of nitrous oxide should be given through the valves of the gas apparatus which should then be thrown out of action and re-breathing commenced by turning the upper tap round on its axis. Next the handle of the ether stopcock should be gently and very slowly moved towards the face-piece. This movement closes the gas orifice as it opens the ether bag, so that the patient receives a very gradual increment of ether vapour, whilst his tidal respirations gradually pass from the one bag to the other. When the patient is breathing entirely into the ether the gas bag is detached and laid aside. Additional ether, when required, can be poured into the filler at the side of the stopcock. Air can be admitted in any amount by moving the stopcock handle back again so as partially or completely to open the orifice to which the gas bag was first attached. The inhaler can also be used for ether alone, without nitrous oxide, in the same way as a Clover's apparatus; but during the induction air is freely mixed with ether vapour until the respirations pass entirely into the ether bag. I am greatly indebted to Messrs. Barth and Co. for the care and courtesy with which they have carried out my instructions.

Mansfield-street, W. H. BELLAMY GARDNER.

[1] See article by Mr. Collum in the Journal of the British Dental Association.

A NEW RESPIRATOR.

THIS respirator consists of a hollow cone of celluloid cut away so as to fit the bridge of the nose. This is rimmed with a pneumatic indiarubber tube, which can be blown out or deflated to fit the contour of every face. Valves on the upper surface of the cone opening outwards allow the escape of the expired air but close on inspiration, thus preventing the entrance of unfiltered air. A filtering chamber is formed at the apex of the cone, separated from the interior by a perforated diaphragm and closed at the outer end by a perforated and removeable cap which fits on to the cone by a bayonet slot. Between the perforated diaphragm and the cap cotton wool, medicated or otherwise, sponge, charcoal, &c., is placed and the air inhaled has to pass through the filtering medium before it can reach the nose or mouth of the wearer. There is also a valve made of indiarubber which hangs over the inner face of the perforated diaphragm which divides the cap from the cone. This is so fitted that on



inhalation it flies back and allows unimpeded ingress of air, but on expiration it is forced back upon the diaphragm and prevents the filtering cap from contamination by the expired breath. Breathing is not in the least interfered with and the respirator can be used for hours without discomfort. It allows the wearer to converse without hindrance. The apparatus can be used in many more ways than in the

prevention of dust disease and offers advantages for the administration of chloroform in the shape of economy of the anæsthetic, as none of it is blown away by expiration and so wasted, while the effect on respiration can be noted. When used for administering chloroform, the cap should be removed and the anæsthetic dropped, a few drops at a time, directly upon the lint. In this way the inspired air contains from 2 to 4 per cent. of the chloroform. The respirator is made by Messrs. Arnold and Sons, West Smithfield, London.

A. ROWLEY MOODY.

Shelton, Stoke-on-Trent.

"TABLOID" ASEPTIC HYPODERMIC POCKET CASE.

THIS pocket case is nickel-plated and measures 3¼ inches × 1¾ inches × ¾ inch. The ends and sides of the case are rounded so that it may be comfortably carried in the waistcoat pocket. The equipment of the case comprises an all-glass aseptic hypodermic syringe with detachable nickel-plated finger-grip, two steel needles inclosed in a protective tube, and eight tubes of "tabloid" hypodermic products

which are carried in a hinged rack which securely holds the tubes when the case is closed and which when swung outward allows of the easy withdrawal of any tube. The fittings of the case may be removed at any time and together with the case may be rendered aseptic quickly and without injuring them. The case and its equipment have been made with the care and attention to detail which invariably characterise the productions of Messrs. Burroughs, Wellcome, and Co.

THE SANITARY INSTITUTE: CONGRESS AT BRADFORD.

THE bright sunshine which prevailed in Bradford during the four days—July 7th to 10th—on which the Congress of the Sanitary Institute was held added very considerably to the success of the meeting. The total number of persons in attendance—1556—although less than at the 1902 Congress in Manchester, was considerably more than when the Institute met at Leeds in 1897 and there was no falling off in the number of delegates from sanitary authorities, scientific societies, and other bodies. Reference has already been made in THE LANCET[1] to the address of Lord Stamford, concerning which it is now only necessary to say that for breadth of thought and earnestness it does not fall one whit below any one of the 20 addresses which have been delivered by former Presidents of the Institute. The vote of thanks accorded to Lord Stamford at the conclusion of his address was seconded by Dr. St. Yves Menard who was present as the representative of the French Ministère de l'Instruction Publique.

The discussions in the conference upon Industrial Hygiene ought to have an important effect in a manufacturing district like Bradford. Professor Thomas Oliver, in his presidential address, protested against the introduction into this country of the "driving" or "rushing" system where men, even when paid by the piece, are worked so extremely hard—although the actual length of the working day is not extended—that at the end of six days they are practically exhausted, so that they require and take a long rest. But the most important contribution to this conference was that of Mr. W. H. Mitchell who spoke upon Factory Legislation from an Employer's Point of View and insisted that to get the best out of machines which have to be worked by human beings the health and strength of the workers are as important as the condition of the machinery. The Factory Acts, he maintained, have helped employers to success by compelling them as a whole to do what the most enlightened of them are always anxious to do, and the factory legislation of Great Britain was a standing proof of the fallacy of the contention that the best thing the State can do for the industries of a nation is to let them alone.

The Sophistication of Foods was discussed by Dr. J. Spottiswoode Cameron, who presided over the conference of medical officers of health, and by other speakers, the opinion of the members being embodied in a resolution to the effect that:

Wherever preservatives are added to food their presence, nature, and maximum amount should be indicated on the label or otherwise declared.

In connexion with the practice of adding boric acid to milk Dr. H. R. Kenwood referred to recent experiments which had been made as to the effects of this preservative and maintained that we cannot argue from the lower animals to human beings, and until we obtain evidence that children under one year of age can take with impunity ten grains of the drug daily for months we must continue to protest against its use in milk. Dr. J. Howard Jones of Newport said that he had sent out to the milk dealers in his town a circular giving a summary of the recommendations of the departmental committee of the Local Government Board, with the result that during last year not a single sample of milk submitted to analysis was found to contain preservatives, although in former years the practice was almost universal. It was only to be expected that the epidemic of small-pox which has prevailed in the northern and midland counties during the whole of this year would be discussed in connexion with infection conveyed by tramps. Dr. Cameron commended the action of those boards of guardians which had determined to have all vagrants medically examined and which had adopted the cubicle system in their workhouses. Dr. J. R. Kaye advocated the vaccination of "contacts," disinfection of their person and clothing, and their detention in common lodging-houses with the exclusion of new comers or the complete closure of these houses where necessary. The following motion was passed:—

That in view of the recurrent outbreaks of small-pox, largely contributed to by a certain class of society, the Government be requested to take into consideration the necessity for legislation to deal more effectually with those resorting to common lodging-houses and workhouse tramp wards as a constant and dangerous element in the propagation and dissemination of small-pox.

The principal subjects discussed in the remaining conferences were the Housing of the Working Classes and Infantile Mortality, by municipal representatives; Tramways, by engineers and surveyors; the Slaughtering of Animals, by veterinary inspectors; Smoke Abatement and the Administrative Control of House Drains, by sanitary inspectors; House Furnishing and Decoration, by ladies; and Medical Problems in Public Elementary Schools, in the conference on school life, where Dr. H. Meredith Richards, medical officer of health of Croydon, urged the necessity of raising the standard of cubic space per child, of a minimum standard of ventilation, and of periodic reports by the medical officer of health on the sanitary condition of all school premises.

Professor CLIFFORD ALLBUTT addressed a large audience as President of the Section of Preventive Medicine, when he advocated the improvement of the least fit in order that they might be the better able to withstand disease should it attack them. In this section the compulsory notification of pulmonary tuberculosis was discussed at some length and a definite resolution expressing the opinion that the time had arrived for the enforcement of such a measure was unanimously carried. Upon the question of the desirability of appointing a minister of public health the members of the congress were not so unanimous, and more than one speaker declared most emphatically that if public health officers were only given security of tenure of office there would be a sufficient spur given to the administration of the Public Health Acts and no more would be heard of the need for a special minister other than the President of the Local Government Board.

Among the matters discussed in the remaining sections were the Construction of Isolation Hospitals; the Scope and Limitations of Bacteriology in the Investigation of Infectious Disease; and the Bacterial and other Treatment of Sewage, concerning which the advocates of the intermittent method on the one hand and the continuous on the other appear not yet to have said the last word. The usefulness of many of the discussions was impaired owing to the absence of the authors of some of the principal papers, so that obscure passages could not be elucidated, nor could destructive criticism be effectively replied to.

Mr. G. SLATER, F.R.I.B.A., gave the public lecture to the members of the congress on Architecture in its Relation to Hygiene, and Major RONALD ROSS, C.B., F.R.S., addressed a crowded audience on Insect-borne Parasites.

[1] THE LANCET, July 11th, 1903, p. 109.

THE LANCET.

LONDON: SATURDAY, JULY 18, 1903.

Medical Witnesses in Criminal Courts.

FOR many years members of the medical profession have complained of the wholly inadequate payments allowed to them as witnesses in criminal cases under the scale established by Sir GEORGE GREY in 1858. We have frequently called attention to the subject in THE LANCET[1] and in the course of criminal trials the refusal of medical witnesses to give evidence has brought the matter before the courts and before the public, particularly on the recent occasion of a trial at the Suffolk assizes in June, 1902, when the question received the sympathetic attention of Mr. Justice KENNEDY. A committee appointed to inquire into the whole question of allowances to prosecutors, including the fees to counsel and of payments to be made to witnesses of all classes, has now had before it a considerable body of evidence and we publish on another page its recommendations so far as they affect the medical profession (see p. 182). Whether the proposed changes are adequate in respect of medical witnesses at assizes and quarter sessions, and particularly at the former which usually occupy more time, is a point for consideration. They fall short of what the medical witnesses before the committee, Mr. F. W. LOWNDES, Mr. H. NELSON HARDY, and Dr. H. R. JONES, put forward as fair and reasonable allowances and the report assigns no cause for this. The committee, however, although not applying the full remedy asked for, acknowledges that the protests of the medical profession were well founded. With regard to this the report says: "We think that the allowances paid for under this head (professional evidence) have been inadequate, especially in the case of doctors summoned to places distant from their practice. It seems to us that the complaints made by the medical profession in respect of the present scale are justified by the very fact that its members are much more frequently called on to assist criminal justice by evidence drawn from their professional experience than any other class of the community." The evidence upon which this opinion is based is published in a blue-book which provides instructive reading even for those who have acquired some personal knowledge of the abuses in existence. They will find that in some police-courts in this country no fee whatever is paid to the medical witnesses; that at others no fee is paid unless the case is committed for trial; and that at one place a fee is paid when the case turns out to be one of "grievous bodily harm" but not when it is found to be a "common assault." At other courts police surgeons, who are paid for their attendance upon the members of the force under their care upon a scale based upon the numbers enrolled in the force to which they have been appointed, are expected to give evidence at petty sessions for nothing, at any rate if there is no committal for trial, and indeed in one place for nothing in all criminal cases.

Cases under the laws for the punishment of sexual and unnatural offences have provided a striking instance of injustice affecting frequently not only the police surgeon but also the general practitioner, upon whom the administrators of the criminal law cannot by any stretch of imagination be said to possess a claim for gratuitous assistance. The trial at the Suffolk assizes, to which we have alluded already, belonged to this class of case. Here, there is no question of rendering professional aid to an injured person in order to save life or to lessen the effect of a crime, but, charges of criminal assault upon women or girls or of unnatural crime having been made, medical evidence is usually needed on behalf of the prosecution and an examination of the complainant or of the prisoner has to be undertaken with as little delay as possible. Cases of this kind involve a very responsible, as well as a very repulsive, duty; linen may have to be examined for stains, chemical and microscopical investigation may have to be made, and much time may be occupied. Hitherto, however, the medical man has received no fee for such examinations but has only found himself involved in the unpleasant and ill-compensated task of giving evidence at petty sessions and again at quarter sessions or assizes; and with reference to quarter sessions and assizes it must be remembered that the medical witness has been paid the same amount, however far he has been taken from his home and his practice. In the loss involved by spending a night at a hotel with a contribution allowed him of 2*s.* or 2*s.* 6*d.* towards the settlement of his bill, the medical witness has had to suffer with other witnesses of the better class. He has also shared with them the inconvenience inflicted upon all who give evidence at quarter sessions and assizes owing to the want of organisation and of arrangement. To the unnecessary anxiety and dislocation of professional work caused by this we have called attention before now,[2] and we observe that Mr. HARDY spoke forcibly on the subject in his answers before the committee, with particular reference to the Old Bailey.

In respect of all these matters the report of the committee is likely to effect improvement, although with regard to witnesses at quarter sessions and assizes the improvement might be more marked. Progress has been slow in the matter when we consider how long the existing scale has been in force. Yet we realise that it has been made when we study the report of the committee as to the payment of witnesses in days not very long gone by. The report states that "prior to the year 1752 no allowance was made from any public fund to prosecutors and witnesses." In that year an Act was passed which recited that many were deterred from prosecuting persons guilty of felony on account of the expense and provided that the court might order the treasurer of the county to pay reasonable

[1] See, for example, THE LANCET, July 12th, 1902, p. 85; July 26th, pp. 230, 237, 247, 257.

[2] THE LANCET, July 12th, 1902, p. 86.

expenses to the prosecutor when a person had been tried *and convicted* of felony, a condition which must have had a stimulating effect upon the evidence hardly consistent with modern ideas of the impartial attitude to be observed on such occasions. It was not until 1778 that powers were given to make allowances to witnesses irrespectively of the conviction or acquittal of the prisoner and not until 1813 that the law was further extended to include all witnesses, whether in poor circumstances or not. The carrying into effect of the report of the latest committee upon this important subject will be awaited with interest by many, but by none more than by the members of the medical profession, who have not asked to be rewarded for their services so much as to be compensated for loss otherwise suffered in the performance of public duty.

Dangerous Oysters.

IT is generally known that the result of the careful inquiries made into the illness which followed the mayoral banquets at Winchester and Southampton on Nov. 10th of last year was in each case to implicate oysters which came from Emsworth, near Portsmouth. A full account of the circumstances has now been given by Dr. H T. BULSTRODE in a report to the Local Government Board, to which are appended communications from several of the numerous medical officers of health who took part in the investigations. At Winchester, out of a total of 134 guests, no less than 62 were attacked by illness after the banquet. At Southampton 55 out of 133 guests were attacked. Most of the patients suffered from gastro-enteritis at longer or shorter intervals after eating the oysters, but in ten of the Winchester cases and 11 of the Southampton cases definite enteric fever developed and five deaths occurred. Emsworth oysters were ascertained to have caused enteric fever at Portsmouth, Ventnor, and elsewhere at about the same time. They had been supplied from storage pits situated on the foreshore of the tidal stream "Ems," within 100 yards of the main sewer outfall of the village of Emsworth, where several cases of enteric fever occurred during October and November.

The results of Dr. BULSTRODE'S exhaustive inquiries into these outbreaks are epidemiologically of much interest. Enteric fever has too often been attributed to oysters for no stronger reason than that a patient was known to have eaten oysters some time or other before his illness began and the loose evidence, frequently accepted as proof in such cases, has made caution necessary in drawing conclusions regarding the share of oysters in spreading the disease. But here, when all the facts are studied, the demonstration is as complete as it could well be. The investigation in some respects has been even closer than in the outbreak at the Wesleyan College at Connecticut in 1894 or in that which was due to Brightlingsea oysters in 1897, and from many points of view the report is most serious reading. There was here no question of want of knowledge or lack of warning. The medical department of the Local Government Board for many years has made a special study of oyster culture in relation to disease. Dr. BULSTRODE'S comprehensive report, published in 1896, gave an account of the position of all oyster layings and oyster pits of any importance on the English coast and their relation to sewer outfalls. The facts there detailed made it evident that, broadly speaking, risks of two different kinds have to be considered. On the one hand there are certain oyster layings, situated in estuaries and creeks where the oysters are covered by water at almost any state of tide. Here the only question of danger which arises is whether sewage discharged at points considerable distances (often many miles) away, and usually becoming enormously diluted, may nevertheless under exceptional conditions cause material pollution of the oysters. The risk then is of a kind which people are accustomed to accept in the case of other articles of food or drink—it is of much the same order, for example, as that which is run by the consumer of London water or of unboiled milk. On the other hand, there are certain layings and storage pits—comparatively few in number and unimportant in relation to the whole oyster trade—where the risk is a very different matter and might fitly be compared to that of drinking water from a well receiving leakage from a public urinal. These are storage pits which for the convenience of the trader have been placed on the foreshore close by the town or village in which he lives, or "layings" similarly situated where oysters are deposited for a short time pending their sale. They are uncovered at low water and the sewage of the place is discharged in their immediate neighbourhood; as the tide falls the water over the oysters becomes increasingly polluted and the last water in which they have lain before being gathered for market may be only moderately diluted sewage. These are the pits and layings to which the oysters have been traced in nearly all cases of "oyster typhoid" which have been fully investigated. The Emsworth pits were a notorious example of danger of this second order. Dealing with them in his report of 1896 Dr. BULSTRODE had stated: "It would hardly seem necessary, in view of the relations between the sewer outlets and the storage pits depicted on the accompanying map, to dwell upon the gross contaminations to which oysters here stored must be liable." Notwithstanding that the danger was thus fully pointed out seven years ago the conditions now remain almost precisely the same. Practically speaking, nothing was done either by the oyster merchants or by the local authority. And it is surprising that the continued use of the Emsworth pits appears to have received so little protest from the oyster trade as a whole. Even Whitstable merchants have consigned oysters to Emsworth to be laid in these pits awaiting delivery, thereby seriously jeopardising the high reputation of the whole of the Whitstable trade.

It is notorious that in existing circumstances neither central nor local public health authorities can take any effectual action to prevent the recurrence of such outbreaks as we are discussing. There is no public authority in the position to deal with the minor risks to which we have referred, none which can settle in a given instance what should be required respectively of the oyster fattener and of the local authority which sends its sewage into tidal waters. More important still, there is no public authority which can condemn pits and layings of the Emsworth kind, though they are obvious dangers to the public and should be abolished outright.

The Local Government Board introduced a Bill to deal with this question a few years ago, but a committee of the House of Lords allowed itself to be persuaded to transfer the proposed powers from public health authorities to the Fisheries Board, and the Bill, thus made practically useless as a sanitary measure, was withdrawn. Since then the Government has taken no further steps to obtain legislation in the matter and it has not yet announced its policy in respect of the strong and unanimous recommendations of the Royal Commission on Sewage Disposal that a central department should be established to deal with scientific and administrative questions connected with the disposal of sewage. Obviously such a department, with its associated Rivers Boards, would have all the qualifications necessary to deal with the oyster question, and it is satisfactory that the Commission has recently extended its inquiries to shell-fish. But whether the matter is included in a comprehensive scheme of legislation on sewage disposal, or is provided for in a separate Act, it should be undertaken speedily. Repetition of the Winchester and Southampton experience would be something more than a misfortune, and meanwhile an excellent and useful article of food is very generally shunned.

A word must be said also concerning the helpless position of the medical officer of health who tries to protect the population under his care from contaminated oysters. The only course open to him is his power of "seizing" the shell-fish which he considers unwholesome with a view to get them condemned by a justice. Practically this means that he has to wait for enteric fever to occur before he has grounds for suspecting a particular vendor or a particular class of oysters. Then he has to satisfy the magistrate, on evidence which often is necessarily incomplete, that the batch of oysters seized should be condemned, his reason being that other oysters conjectured to have come from the same place on some previous occasion are believed to have done mischief. Bacteriological examination can only afford very uncertain aid. The medical officer of health receives a report, perhaps, that the bacillus coli or some other organism frequent in sewage has been detected. But the significance of the bacillus coli in an oyster, particularly if present in quite small numbers, is, in our present knowledge, hardly more than a matter of speculation. In this case, as with so many other foods, attempts to secure purity by analysis of the food when on the market are cumbrous and inefficient. Effective control can and should be exercised at a much earlier stage.

The Recent Elections at the Royal College of Surgeons of England.

THE recent elections of members of Council and of a President at the Royal College of Surgeons of England have been by no means devoid of interest. The result of the election of three members of Council accorded with what we foreshadowed in THE LANCET, for Mr. H. T. BUTLIN was re-elected and Mr. G. H. MAKINS, C.B., and Mr. C. T. DENT were elected, but it is in the number of votes polled that the chief interest lies. In all 665 Fellows voted, 655 of these sending their votes through the post and 10 voting in person. Let us contrast these figures with those of last year. Then nearly 80 more Fellows voted and the diminution is in part to be accounted for by the small number of candidates. But there has been an even greater proportional fall in the personal voting, for for only 10 Fellows attended to vote. Last year 19 voted personally and for a few years the numbers have varied but little, so that the fall to 10 is a great diminution indeed. When voting by post was introduced it was hardly foreseen that voting in person would fall off so greatly and it cannot be denied that this diminution in numbers is a great pity. In the first place, it is often difficult to obtain the quorum of six Fellows who must be present according to the Charter before the election can begin and none of these must be connected with the Council; on one occasion nearly half an hour elapsed before this number was obtained. We suggest that an excellent plan would be to withhold the franchise from all new Fellows until they have attended personally at one election. This would insure the attendance of the necessary number of Fellows. There is yet another reason why Fellows should attend in person at the election, for on that day is held the annual exhibition of the recent additions to the museums of the College and these are always deserving of careful examination. As it is, these specimen are seen by only a few. It is no easy matter, too, to obtain the two scrutineers of the ballot, for they have to devote nearly three hours to the somewhat dull task of counting the votes.

In the apportionment of the votes this year there is much of interest. As we predicted Mr. BUTLIN was at the top of the poll with 424 votes, of which only 16 were plumpers; Mr. MAKINS came next with 407 votes, of which 44 were plumpers; Mr. DENT had 352 votes with 60 plumpers; and Mr. F. S. EVE 335 votes, with 60 plumpers. Thus the numbers of the plumping votes are in inverse order to the total votes polled by each candidate. The probable cause of this curious circumstance is the personal interest in individual candidates felt by many voters, but on the whole plumping is not desirable. Curiously some of the voters appear to imagine that by plumping they give three votes to their chosen candidates, for many voting papers bore three crosses opposite one candidate's name. This is an error, for the candidate receives only one vote. This year there were no spoilt votes, and indeed it might be thought that highly educated men would understand how to fill up a voting paper. But as a matter of fact, although the directions issued by the secretary of the College are most explicit, nearly every year several voting papers have to be rejected because they are incorrectly filled in. After the election of members of Council comes the annual meeting of Fellows, but it seems to be impossible to obtain a meeting. Thirty Fellows are required to form a quorum and at the time of meeting this year there were present the President, the two Vice-Presidents, one other member of Council, and two Fellows. A very valid excuse for the absence of Fellows is the fact that the only agendum was the confirmation of the minutes of the meeting of Fellows held on July 1st, 1897, six years ago. Time after time meetings have been called, at first twice a year, but latterly only in July, and yet no quorum has been obtained. It is surely useless to prolong this farce of

annual meetings. The Fellows evidently do not care to attend and therefore the regular meetings should be discontinued, but it should be possible for the Council to summon a meeting of the Fellows at any time should need arise or if a certain number of the Fellows should request that a meeting be summoned. This would surely suffice. The Council apparently feels that the present arrangement is not satisfactory, for at its recent meeting it appointed a committee to consider the whole question.

On July 9th Sir HENRY G. HOWSE'S term of office as President came to an end. He has served for two years and has worthily upheld the dignity of the College and all must feel regret at the termination of his presidency. Mr. JOHN TWEEDY was chosen to succeed him as President and we may be permitted to express our hearty approval of the Council's choice. Inasmuch as by the mode of election employed an absolute majority is needed of the members of the Council present, whether voting or not, we can always be certain that the President chosen has the confidence of the majority of the Council. Mr. TWEEDY is very well fitted for the post to which he has been elected. He is tactful and methodic; no member of the Council is better acquainted with the work and history of the College, while few, if any, members of our profession have so just a claim to be considered a learned man. We believe it to be generally known that Mr. TWEEDY is liberal-minded and well inclined towards the recognition of the just claims of the Members of the College. The action of an extreme section of "reformers" has tended to retard the due development or evolution of the College, but the friction engendered thereby is becoming less and less and we may look forward with hope. It is worthy of note that Mr. TWEEDY is an ophthalmic surgeon and at first sight this fact might be thought to weaken his claims to the presidency. But ophthalmic surgery is a most important and essential branch of surgery and we consider it fitting that an ophthalmic surgeon should in due course attain to the presidential chair. We congratulate Mr. TWEEDY heartily on his accession to the leadership of the Royal College of Surgeons of England.

Annotations.

"Ne quid nimis."

THE INFECTION OF PLAGUE.

THE discovery of plague-infected poultry in the western market of Hong-Kong to which we briefly referred in our issue of July 11th, p. 117 is a direct development of the result of the experiments conducted by Dr. W. J. Simpson in his recent visit to that colony. These experiments showed that monkeys, pigs, calves, sheep, hens, geese, ducks, turkeys, and pigeons contracted plague by feeding on plague-infected material. The remarkable facility with which plague was thus caused in such a variety of animals possesses an important bearing on the still debated question as to the modes of infection in man. The view that plague is mainly acquired by inoculation will probably have to be modified in the light of these experiments and the swallowing of infected food or drink, in whatever way that food or drink may become infected, will be likely to take a more important place in the recognised modes by which the virus infects the body. It is evidently with this intention that as a result of the experiments it was recommended to introduce measures to prevent the bringing of infected food into the markets. These measures have borne fruit in the detection of infected poultry. The statement of Dr. J. M. Atkinson, the principal medical officer of the colony, when announcing to the Sanitary Board the discovery of the infected fowls, is full of interest. He mentioned that it was the custom of the Chinese to eat half-cooked fowls and frequently to use the uncooked entrails as a delicacy with their rice. In such circumstances the danger by way of feeding is obvious, for it can hardly be supposed that man is immune to this mode of infection when the monkey and other animals are so susceptible. The discovery is one which has a particular interest for the East, where so many of the poorer class are careless in the mode of preparation and storage of their food and where on account of indifferent cooking a disease spread by infected food would have considerable opportunities of becoming epidemic. The fact that the lower animals who contracted the disease by eating plague-infected material often exhibit a chronic form of illness in which the symptoms are ill defined until one or two days before death certainly adds to the difficulties of recognising the disease among them and of introducing preventive measures. This chronicity of type without any visible signs of sickness is important in relation to the interval which elapses between cases of plague in endemic centres, and in this connexion it may be remarked that the descriptions of the mode of life in the endemic centres of plague in Persia, India, and China are alike in representing the very intimate association of the lower animals (including poultry) and the people, each and all living together generally in the same dark and unventilated hut.

HASCHISCH.

AN important paper on this drug by Dr. Sigmund Fränkel of Vienna appeared in the June number of the *Archiv für Experimentelle Pathologie und Pharmacologie*. Haschisch, the extract of cannabis indica or Indian hemp, has been familiar to the eastern nations from time immemorial. Edicts have been often promulgated against its use which would probably have proved more ineffective than they have actually done had not tobacco and opium supplanted it to some extent owing to their inducing other forms of narcotic action. The effects of haschisch vary to a remarkable extent, the variation being due in all probability to differences in composition and nature as well as in the mode of preparation of the drug, and in part also to differences in the temperament of those by whom it is consumed. In Turkey it is smoked with an admixture of Persian tobacco in a narghileh or water-pipe and it then produces a peculiar kind of ecstasy in which the smoker passes into a cataleptic condition; sensation is then almost abolished and lively dreams alone indicate that consciousness exists. In some dispositions it produces laughter and singing; in others, and especially in excitable persons, a comatose condition supervenes, followed by collapse and loss both of sensation and of the power of motion. The pulse, at first more frequent than normal, falls; the face becomes pale; and the skin, which is at first affected by a pleasant sensation of warmth, becomes cold. Delirium is sometimes observed. The pupil is sometimes contracted and at other times dilated. Erotic dreams with visions of palaces and intellectual and refined enjoyments arise. The Arabs use it chiefly to dissipate grief. Haschisch affects the European's brain in another manner. In him it appears to brighten the intellect, to give energy to the mind, and to make muscular effort a pleasure The limits

of reason and common-sense are overpassed, a second of time becomes prolonged into a century, and a stride traverses an immense space. Hearing becomes hyperacute, impulses to activity become uncontrollable, and illusions and hallucinations follow each other in quick succession. Von Bibra in experiments on himself with haschisch noticed an exaltation of the plastic sense, so that slight alterations in the folds of a sheet assumed the most varied and imposing forms. Small doses caused an excellent appetite. In the case of M. Heinrich, which was observed and described by Schroff and was nearly fatal, the most violent delirium occurred with great depression of the heart. He had the sensation of flying and suffered from fulness of the vessels of the head, slow pulse, and præcordial anxiety. There were marked general anæsthesia and constipation. Dr. Fränkel gives the results of his chemical investigation of the drug, of which he had more than 25 pounds weight at his disposal. It was supplied to him from Constantinople in a fresh condition and proved to be very active. He found that petroleum ether boiling at a low temperature was capable of abstracting almost the whole of the active agent, leaving only colouring matters and portions of vegetable tissue. Ten kilogrammes of haschisch yielded 2·2 kilogrammes of a dark brown resin and from this by distillation and appropriate means which need not be here detailed he obtained the active principle of haschisch, to which he has given the name of cannabinol. The composition of this thick, faintly yellow oil is $C_{21}H_{30}O_2$. It is readily soluble in alcohol, ether, chloroform, toluol, glacial acetic acid, and petroleum ether. It is dichroic. It gives an intense burgundy red colour when some caustic alkali is added to its alcoholic solution, the colour disappearing when an excess of acid is added.

THE DUST OF BUILDINGS IN PROCESS OF DEMOLITION AND ITS PREVENTION.

THE process of demolishing old brick buildings, and very often new ones too, is always going on somewhere in London, much to the annoyance and discomfort of those who live in adjoining premises and of those also who pass by. As a rule, no very serious effort is made to suppress the most irritating and injurious dust to which the operations of the housebreaker give rise. Blinding clouds of dust roll down the street, getting into people's eyes and nostrils, and finally this dust deposits itself in the street and on goods exposed for sale. We have seen slabs of fish smothered with such dust, and garments exposed in a tailor's shop covered with the fine powder. Surely, there should be some means of preventing this very real nuisance. Before the demolition of houses is begun the walls could be well wetted and the débris could be watered from time to time. This simple expedient would save giving considerable offence, it seems to us, to the people in the street and would prevent damage to property also. The wholesome effect of watering when buildings are being demolished is easily seen during a moderately heavy fall of rain. In places where the dustfall is registered as well as the rainfall the returns show a considerable increase in the amount of dust collected when building or demolishing operations are going on. A considerable increase, for instance, took place in the amount of dust collected in a dust-gauge in Edinburgh in 1902, as compared with 1901, during the building operations carried on at the University Union which was contiguous to the test area. The fall of dust and soot in an open dish or gauge of 75 square inches amounted to 2 ounces, giving 3·8 ounces per square foot, or about 24 pounds for 100 square feet for the year 1902, an amount representing three times as much as was similarly caught in 1901. As pointed out to us by a correspondent, the appearance of sand in the dust-gauge is invariably an indication that building or demolishing work is going on in the neighbourhood, while it is shown that the wind is able to hold suspended particles for some time and to carry them to a comparatively long distance, when at length they are deposited in sheltered places. We think it should be insisted that in the process of building, but especially in the demolition of houses, some steps should be taken at the outset, such as the simple expedient of watering, in order to prevent the scattering broadcast of what is a very irritating and injurious form of dust.

INSANITY AND MORAL DELINQUENCY IN CHILDREN.

WHILE it is generally believed that insanity (as distinguished from idiocy or imbecility) in the very young is rare, the literature of psychological medicine is rich in cases of insanity and moral delinquency occurring in children, and Esquirol nearly a century ago reported a large number of such cases. In the New York *Medical Record* of June 20th Dr. Allan McLane Hamilton, who opened a discussion on this subject at the New York Psychiatrical Society, points out that the determination of the responsibility of children with criminal tendencies is naturally a matter of difficulty. The word "moral" as applied to infantile delinquency is, he says, clearly out of place when we consider the imperfect mental organisation of the young child. "The offences of children before the age of puberty are largely unthinking" and indicate a very rudimentary degree of development of the sense of responsibility. Among the purposeless vicious habits of children are the mutilation or killing of pet animals, incendiarism, and petty thefts. Incendiarism is often prompted by "the love of seeing fire and the craze for excitement." Suicide in children may be the outcome of a simple disappointment, such as the loss of a pet animal or of failure to obtain a certain standard at school. This is, says Dr. Hamilton, due to ignorance of the meaning of death and need not imply the presence of insanity. When a child with criminal tendencies has symptoms bordering on insanity inquiry into his history will reveal abnormalities of character even as early as the third or fourth year—viz., habitual and useless lying, defiance of authority, cruelty of disposition, and sexual precocity or perversion. Such children are "dull as far as systematic work is concerned, but sharp and precocious in other ways." Tracing the history of a certain Frenchwoman, Mme. H——, the notorious forger and swindler, Dr. Hamilton says that at 13 years of age she was a neuropath and confirmed liar who forged her father's name and pretended that she carried documents and "securities" of great value in her corset. Dr. Hamilton cites cases of youthful homicides, children of both sexes, who when questioned about their crimes exhibited a callous disposition and only gave boastful or flippant answers. Among these was a boy who drowned another boy smaller than himself that he "might see the little devil kick in the water." Insane children with criminal tendencies may be classified in the following four groups: first, those with idiocy, imbecility, or epilepsy; secondly, those with primary delusional insanity or incipient paranoia; thirdly, those with mental degeneration and subject to morbid obsessions and irresistible impulses; and fourthly, those with juvenile general paralysis or other psychoses. The first group includes the largest number of youthful criminals; the second contains the fewest. Pyromania, adds Dr. Hamilton, is an exceedingly common criminal tendency among epileptic children, one case being reported of an epileptic child who on no less than three occasions set fire to buildings. The influence of bad literature of the "penny dreadful" order is, he adds, potent for harm and evil among children in the lower strata of slum-life. A typical instance is cited in the case of a boy, aged 12 years, who was born of vicious parents in a

New York slum and who in early childhood showed a desire towards the mutilation of smaller children, was an onanist at the age of eight years, and exhibited every feature of Sadistic sexual perversion with cutting and wounding of his victims long before he had attained puberty. Many of these youthful psychopaths pass easily into the paths of alcoholic and sexual excess while yet children and often they become tramps, waifs, and vagrants. While reformatories, like those at Elmira, exist for the worse class of youthful criminals and while farm colonies exist for epileptics, Dr. Hamilton points out that special schools are needed for the teaching and reforming (compulsory) of a large class of the less abnormal cases. The abolition of journals and books of the penny dreadful class is suggested as one of the means of arresting of youthful delinquency. In the discussion which followed Dr. William Hirsch said that juvenile criminality associated with paranoia or epilepsy could be diagnosed as a form of psychical disorder without much difficulty. Cases, however, which were marked by obsessions and sudden impulses to crime, such as kleptomania and impulses to homicide, were hard to place in the scale of responsibility. He believed that moral perversion might go hand in hand with average, or even superior, intelligence—sometimes with artistic or musical talents. A symptom common to most youthful criminals and cases of moral insanity was that of habitual and even aimless lying. Dr. H. E. Allison, medical superintendent of the Matteawan Asylum, stated that the majority of youthful criminals seen by him showed mental deficiency and physical abnormalities of the face, the skull, the teeth, and the palate. He did not believe that the prison was the best place for all juvenile offenders. Dr. E. C. Dent said that juvenile "degenerates" comprised a neurasthenic group, a group with obsessions and morbid impulses (agoraphobia, mysophobia, kleptomania, pyromania), and a group with abnormal sexual instincts. Dr. L. Pierce Clark said that in some children, otherwise precocious, a form of early dementia or mental degeneracy appeared at 11 or 12 years of age and led to acts of petty criminality. Epileptic children sometimes showed irresistible tendencies to crime, while sexual perversions, ranging from masturbation to sexual violence and murder (Sadism), occurred fairly frequently in a large class of epileptic boys.

THE LATE W. E. HENLEY.

MODERN English literature has lost in W. E. Henley one of its most interesting figures. An original poet, a drastic critic, an imaginative writer, something of a musician, a good deal of a dramatist, and a first-class journalist, Henley had a literary career the importance of which is not commensurate at all with his output. But little of his work is known to the public, and his reputation in future years will depend largely upon his personality and the influence that he was able to obtain and to maintain over writers some of whom have appealed to a larger audience than he did. To medical men Henley is of particular interest because his strenuous work was done in physical conditions that would have condoned the idleness of the invalid's life. His resolute intent to write and to live by writing was never impaired by any depression following upon his exhausting disease—a form of tuberculous arthritis. The following quatrain, which has been widely quoted, was an accurate expression of his determination to rise superior to his ill circumstances:—

> "It matters not how strait the gate,
> How charged with punishment the scroll;
> I am the master of my fate,
> I am the captain of my soul."

The first book from Henley's pen to attract any attention was called "In Hospital; Rhymes and Rhythms," and formed a record of his experiences in the Edinburgh Infirmary in the early "seventies" while he was undergoing drastic surgical treatment which left him a cripple throughout his life. With terse brilliant impressionism, and in unorthodox metres, these poems tell the tragedy and comedy of a surgical patient's sojourn in a general hospital, the poet's thumb-nail sketches of his nurses, his house-surgeons, his fellow patients, and his general environment being all extraordinarily accurate and suggestive—genuine little etchings of the brain. The verses entitled "Operation" form good examples of his original and virile style.

> "You are carried in a basket,
> Like a carcass from the shambles,
> To the theatre, a cockpit,
> Where they stretch you on a table.
>
> Then they bid you close your eyelids,
> And they mask you with a napkin,
> And the anæsthetic reaches
> Hot and subtle though your being.
>
> And you gasp, and reel, and shudder
> In a rushing, swaying rapture,
> While the voices at your elbow
> Fade—receding—fainter—farther.
>
> Lights about you shower and tumble,
> And your blood seems crystallising—
> Edged and vibrant, yet within you
> Racked and hurried back and forward.
>
> Then the lights grow fast and furious,
> And you hear a noise of waters,
> And you wrestle, blind and dizzy,
> In an agony of effort,
>
> Till a sudden lull accepts you,
> And you sound an utter darkness
> And awaken—with a struggle—
> On a hushed, attentive audience."

Those of us who have taken chloroform and have had to submit to the ordeal of surgical operation will recognise this as a remarkably vivid picture of the medley of sensations. Critics of Henley's work will find in some of his writings evidence that physical ill, despite his proud determination to the contrary, did now and again impart a bitter and unjust flavour to his words, but admirers of a brave man will overlook the occasional weakness for the sake of a valiant life.

BRUNNER'S GLANDS.

THE precise histological characters of these duodenal glands has been the subject of much controversy and statements that are not in accordance with each other have been at different times made by skilled microscopists. By some they have been held to present a tubular structure, thus resembling the pyloric glands; by others they are believed to be acinous glands; and a corresponding difference of opinion exists as to their function, some regarding them as mucous glands and others ascribing to their secretion the properties of pepsin and even the possession of a diastatic ferment. The result of the most recent examination of the glands has been published in the *Archiv für Mikroskopische Anatomie* (Band lxi., Heft iv., 1903) by Herr A. A. Bogomoletz of Odessa who supplies a plate showing the conclusions which he has arrived at by double and triple staining. His observations were made on the Brunner's glands of the horse, ox, pig, sheep, cat, dog, rabbit, rat, and mouse. He finds that in all these animals the terminal branches of the excretory duct expand in a cone-like manner with pits or alveoli on the walls, causing the gland to be alveolar in type. The form and arrangement of the alveoli are not the same in every animal and the differences probably explain the diversity in the views of microscopists. In the sheep, for example, the alveoli are inconspicuous, whilst in the rabbit they form distinct depressions, as well marked as those of the pancreas. Brunner's glands occupy the submucosa of the duodenum, commencing immediately beyond the pylorus and extending to a variable distance in different animals down the intestine. The peculiar features presented by the glands of Brunner, both in regard to their morphology and their histo-chemical relations, as well as the absence of any intermediate forms between them and the pyloric glands, have led Herr Bogomoletz to regard these two sets of glands as

distinct in their nature. The differences in the colouration of the cells of the Lieberkühnian follicles and those of the alveoli of the glands of Brunner when stained with safranin and picro-indigo-carmin are well shown in a coloured plate that accompanies the article. The ducts of the glands accompanied by connective tissue fibres perforate the muscularis mucosæ and open directly into the intestine at the bases of the villi. The ducts, like the alveoli, are lined by epithelial cells of the form of a blunt cone with the nucleus in each cell lying close to the base or attached extremity. The protoplasm varies with the functional activity of the gland and an attempt was made to ascertain to what extent the variation was associated with the nature of the food. The results of researches on the glands of animals are summed up as follows. Under normal conditions different lobuli can be recognised, some having cells presenting granules and others cells which seem to have discharged their secretion. This difference is associated with an alteration in their functional activity. The cells which contain granules contain also a store of ferment (zymogen), whilst the cells that are destitute of granules exhibit the reaction of mucin (metachromasy). The glands of Brunner therefore generate an albuminous secretion and mucus, the latter being of secondary importance in the active functional performance of the gland. The presence of zymogen granules in large quantity follows the ingestion of abundant proteid food. With fat food the zymogen granules are less numerous. The administration of starchy food leads to the excretion of a larger quantity of mucus.

VOICES IN THE WILDERNESS.

OF conferences relating to the administration of the Poor-law there seems to be no end and in general the results produced are so small that we are constrained to wonder what useful purpose is served by these gatherings. Except as a means of illustrating the fable of the mountain in labou the meeting of the National Poor-law Officers' Association which took place at Sheffield on July 4th provides no exception to the rule, for its proceedings amounted to little more than the recording of misdirected efforts. In the morning there was considered by the council a report of the Parliamentary and general purposes committee setting forth the steps taken to induce the Local Government Board to receive a deputation which was prepared to expound the association's views on vaccination. These included suggestions that authority should be given to public vaccinators to inspect the arms of children attending public elementary schools; that the control of vaccination should not be handed over to local authorities other than the boards of guardians; and that compensation should be given to vaccination officers whose districts are re-arranged or who resign office on account of conscientious objection to serve under any body other than a board of guardians. After receiving an outline in writing of these impressions the Local Government Board had no desire to pursue the subject. No better fate befell the attempt made to get the Commissioners in Lunacy to throw light upon the procedure for dealing with persons not in receipt of relief but requiring relief for their proper care. The Commissioners expressed themselves as so well satisfied with the opinion given on this point by Sir Richard Baggallay and Sir John Holker in 1875 that they could not "accede to the request that they should lay a case raising the same question before the present Law Officers of the Crown." An opinion given in 1875 as to the Lunacy Act of 1890 may seem something of an anachronism, but a Government department is not likely to worry about a trifle of this sort. Possibly the Commissioners, remembering the results of their appeal in 1901 to the "present Law Officers of the Crown" in the matter of the interpretation of Subsection (1), Section 21 of the Act and the glorious confusion to which the opinion obtained gave, and still gives, rise, preferred to let ill alone. A general meeting which followed the council meeting proceeded in the same spirit as characterised the morning's work to discuss at length the scheme of transferring the duties of boards of guardians to borough and county councils which, in spite of the fact that he has publicly repudiated it, the President of the Local Government Board was credited with supporting. Altogether the association appears to take itself rather too seriously and we would hint that the cultivation of a sense of humour might save it in the future from such discouraging response to its advances as seems to have attended its dealing with higher powers.

COFFEE AFTER DINNER.

EVERYBODY knows that coffee, as a rule, is not well made in this country, a fact which amply accounts for the comparatively few coffee drinkers to be found at the breakfast table at the present time. Again, coffee is more expensive than tea and a cup of coffee to be quite satisfactory must be made with an abundance of material. Although coffee is little used for breakfast it is very commonly drunk after dinner, a custom which perhaps is justified, particularly when wine-drinking accompanies the meal, for coffee is an antidote to alcohol. A hot draught of coffee is undoubtedly a powerful stimulant, enabling both mental and physical fatigue to be borne. On the other hand, a cup of hot coffee disagrees with many persons, their digestion is disturbed rather than aided, there is interference with the normal chemistry of the digestive process, and the dyspeptic must eschew hot strong coffee as well as tea. The excessive drinking of coffee is in any case an evil. But it is often forgotten that coffee can be taken in other ways and in none better than in the form of jelly. A clear coffee jelly after dinner is every bit as good as the hot infusion, while it is free from some of the drawbacks of the latter. Coffee, unlike alcohol, diminishes organic waste, rouses the muscular energy without the collapse which follows alcoholic imbibition, and gelatin in the form of jelly is cooling, assuages thirst, is soothing, and has a tendency to absorb any excessive acidity of the stomach. Gelatin is what is known as a "proteid sparer"—that is, it saves the destruction of proteid, such as albumin. Having regard to these facts, therefore, coffee jelly should form a very suitable sequel to dinner and an excellent substitute for the infusion. Moreover, the astringent principles of coffee, which, however, are different in kind and degree from those present in tea, are nullified by the gelatin. In short, jelly is an excellent vehicle for coffee, but, as is necessary in making the infusion, the quantity of coffee in the jelly should not be stinted. Coffee serves an admirable purpose in dietetics and those with whom it disagrees when taken in the form of a hot infusion will very probably find the jelly quite satisfactory.

PARALYSIS OF THE EXTERNAL POPLITEAL NERVE AFTER HYSTERECTOMY.

THE paralyses which are observed after operations performed under anæsthesia may be divided into those of central origin (due to lesions of the brain or the cord) and peripheral origin (due to lesions of the nerves of the limbs). In most cases of the latter the upper limbs have been involved. At the meeting of the Société Médicale des Hôpitaux de Paris held on May 22nd, M. Maurice Soupault related a case in which the external popliteal nerve was paralysed after a gynæcological operation. He could find only four other cases recorded in which the lower limbs were affected. The uterus and appendages of a delicate woman, aged 42

years, were removed for double salpingitis with suppuration on the right side. The ovaries and tubes were adherent to the neighbouring parts. The operation was difficult and occupied more than two hours. The patient, who was very weak and covered with cold perspiration, was put to bed. She rapidly recovered. On the third day she complained of numbness in the left foot which hung in the position of equino-varus. She could not extend the foot or toes or raise the external border of the foot. There was thus paralysis of the muscles supplied by the external popliteal nerve. The sensibility of the leg was normal but for eight days the point at which the external popliteal nerve turns round the fibula was tender. The nerve had lost both galvanic and faradic irritability and the faradic irritability of the muscles supplied by it was diminished. There was slight reaction of degeneration. Three weeks later the condition was unaltered though massage had been performed. Faradism was then employed. The resulting contractions of the muscles were feeble but they soon improved and rapid progress was made. The paralysis appeared to have been due to compression or traction on the nerve during the operation. During hysterectomy the patient is on an inclined plane with the head low and is literally suspended by bands attached to the knees. It is therefore not surprising that the external popliteal nerve, which occupies a superficial position as it passes round the fibula, should be injured. The fact that such paralysis seldom occurs is explained by the number of factors involved in its production—thinness of the patient, insufficient padding of the legs, pressure exercised on the limb by an assistant during the operation, length of the operation, and the general condition of the patient. Some specially favourable combination of these factors is necessary.

"OPTICIANS" AND SIGHT-TESTING.

WE published last week a letter from Dr. G. Lindsay Johnson containing a statement of the reasons which induced him to accept the position of examiner to the Worshipful Company of Spectacle Makers, and an announcement of the determination at which he has arrived to withdraw from that position after the forthcoming examination, at least until the details of a proposed new scheme of examination and certification have been decided upon. We congratulate Dr. Johnson upon the decision at which he has arrived, but we cannot help thinking that he has struck a wrong note in his manner of announcing it. He implies that the question is one affecting the "interests" of the profession, much as if the opposition of ophthalmic surgeons to what he calls the better education of dealers in spectacles had been prompted by fear of being deprived of a source of professional remuneration. We have not heard this view advanced nor have we advanced it ourselves, but it is not unworthy of Dr. Johnson's clients. Our contention is that the spectacle seller, as he has existed in this country from time immemorial, is a necessary person. The farmer's wife, when it becomes difficult for her to thread a needle, goes to his shop, and he sells her what he calls "clearers," with which she goes home rejoicing. If she finds that these do not suffice for her requirements she consults her medical man, and he either prescribes for her himself or advises her to go to an ophthalmic surgeon or to the eye hospital in the neighbouring market town. By this arrangement the necessities of the case are abundantly provided for. Under the scheme, for the adoption of which Dr. Johnson must accept at least partial responsibility, the spectacle seller acquires some smattering of optics. He appends capital letters of cryptic signification to his name and he covers his window with announcements of his competence to deal with defects of sight. In precise proportion to the faith in his powers which these announcements inspire he is likely to become a peril and a nuisance to the public, and this for the simple reason that the defects with which he professes to be able to deal may be either pathological or optical, and are often both in combination. The amount of optical knowledge required for dealing with them is easy of attainment by a medical man, but the amount of medical knowledge required for the same purpose is impossible of attainment by an optician. The natural tendency of a half-educated man is to form an exaggerated estimate of the value of the slender information which he possesses, and to be unwilling to admit his own want of competence to apply it to any case submitted to him. The "certified" optician is far more likely to devote himself to a prolonged endeavour to treat chronic glaucoma by a new arrangement of cylindro-prismatic spectacles, which he will describe as the latest outcome of his "science," than to behave as Dr. Johnson would have him, and "refer" to a medical man all the diseased and abnormal eyes presented to him. He has, in the first instance, to discover what eyes are "diseased" or "abnormal"; and, assuming him to be perfectly honest, he is practically certain to break down at the very threshold of his endeavours. Dr. Johnson has only to look at shop windows as he passes along the streets in order to convince himself of the tendencies which are being developed by the sort of examination which he has assisted to promote. Real knowledge does not seek to declare itself in blatant advertisement.

SCHOOL PUNISHMENTS.

ON June 8th the Plymouth town council agreed to a resolution of the education committee of the council to the following effect:—"Principal teachers and class teachers of not less than 5 years' standing shall be allowed to inflict corporal punishment with a cane on the hand." Now this is a very excellent resolution in one way and a very harmful one in another. Corporal punishment is a good thing in itself and head teachers should undoubtedly have the power to inflict it. But caning on the hand is a barbarous and senseless form of punishment. No child, be he as naughty and undisciplined as possible, should be caned on the hand. We have great doubts as to whether a cane should be used at all. The best instrument of punishment is a birch and the place to which it should be applied is the buttocks. Here it will inflict a certain amount of pain and it will if used in reason do no damage. Corporal punishment should never be inflicted immediately on the commission of an offence. It should be administered after school by a head teacher and in the presence of another teacher or of two at least of the offender's class-mates. We refer the Plymouth town council education committee to a leading article which appeared in THE LANCET of Oct. 16th, 1901, in which the question of school punishments was discussed, and we earnestly hope that it will rescind its resolution about a cane and substitute the word "birch," making it plain that the punishment should be administered in the manner which we have indicated.

THE DISTRIBUTION OF PLAGUE.

As regards the Cape Colony the medical officer of health states that for the week ending June 20th the condition of the various places mentioned below was as follows. At Port Elizabeth 2 cases of plague have been discovered during the week—namely, 1 European female on June 17th and 1 native male (found dead) on June 20th. At the Plague Hospital 1 native male died during the week, 1 European male and 3 native males were discharged, leaving 8 cases under treatment. Plague-infected rats continue to be found in the town. At East London no case of plague has been discovered during the week. At the

Plague Hospital 1 European female was discharged, leaving 4 cases under treatment. At King William's Town no case of plague has been discovered during the week. At the Plague Hospital 1 European female was discharged, leaving 11 cases under treatment. Plague-infected rats continue to be found in the town. At Graaff-Reinet no case of plague and no plague-infected rats have been discovered. At Burghersdorp 1 rodent found dead in the town on June 12th has since proved to have been plague-infected. At Queenstown no case of plague was discovered but plague-infected rats were found on the railway premises during the week. At Stockenstrom no case of plague and no plague-infected rats were found. As regards the Mauritius a telegram from the Governor received at the Colonial Office on July 10th states that for the week ending July 9th there were 8 cases of plague, 5 of which were fatal.

CLEAN STREETS.

ON May 12th the London County Council passed the following by-laws for keeping the streets of the metropolis clean and they have now the force of law :—

No person shall (1) sweep or otherwise remove from any shop, house, or vehicle into any street any waste paper, shavings, or other refuse, or being a costermonger, newsvendor, or other street trader throw down and leave in any street any waste paper, shavings, or other refuse; (2) throw down and leave in any street any bill, placard, or other substance intended for the purpose of advertising; and (3) throw down and leave in any street any bill, placard, or other paper which shall have been torn off or removed from any bill-posting station.

No person shall throw, place, or leave any bottle or any broken glass, nail, or other sharp substance (not being road material) on or in any street or public place in such a position as to be likely to cause injury to passengers or animals or damage to property.

Another by-law enacts :—

No person shall spit on the floor, side, or wall of any public carriage or of any public hall, public waiting-room, or place of public entertainment whether admission be obtained upon payment or not.

The penalty for infringing these by-laws is a fine not exceeding 40*s.* and we trust that the good sense of the public will come to the assistance of the law in seeing that they are obeyed.

THE JOURNAL OF THE ROYAL ARMY MEDICAL CORPS.

WE have to congratulate the Royal Army Medical Corps on the birth this month of a new journal designed in the interest and for the use of medical officers and in furtherance of the progress of military medicine, a project which has long been in existence but has never before been actually realised. The journal, which is to be issued monthly, starts well and is fortunate in having been able to secure Major R. H. Firth as editor. It is needless to say that we wish our new contemporary every success. Its publication is in a great measure attributable to the energy and efforts of the Director-General, Sir William Taylor, and it was only fitting, therefore, that on this account and as the head and representative of the Army Medical Service he should furnish the introductory article with which the new journal opens. Sir William Taylor gives a brief descriptive outline of the history of what had previously taken place and of the reasons which have led to the appearance of the journal at the present time, of the objects sought to be obtained by it, and of the means and methods by which a high standard of professional and scientific interest may be kept alive and developed through the agency of a publication of this sort. Captain G. B. Stanistreet, R.A.M.C., contributes a carefully drawn up and most useful report, which is illustrated, upon hospital arrangements on board transports. This is followed by the description of an interesting case of neurectomy of the sciatic nerve, a report on the medical relief expeditions to Martinique and St. Vincent in aid of the sufferers from the volcanic eruptions of May, 1902, and an editorial article on the Enteric Fever Problem of a very excellent and up-to-date character. These papers, together with a *précis* of current literature and corps news, make up a promising first number of the *Journal of the Royal Army Medical Corps*.

RESTORATION OF THE FACE BY A FLAP TAKEN FROM THE SCALP.

IN the *New York Medical Journal* of June 20th Dr. N. Senn of Chicago has described a new and remarkable plastic operation for the restoration of both cheeks and the upper lip by means of a flap taken from the scalp. A man, aged 35 years, the subject of a ghastly defect of the face, was seen in June, 1901. Three years before he had a swelling in the upper lip for which a medical man prescribed an ointment. In the summer of 1900 it disappeared but returned in November. He then consulted a clergyman who had some reputation as a "cancer doctor." This gentleman had no hesitation in pronouncing the disease to be cancer and applied a caustic paste which caused great pain and extensive sloughing. This treatment was continued for ten weeks, at the end of which time the nose, the upper lip, the cheeks, and the lower eyelids had sloughed away. Healing by granulation took place slowly. When he came under observation the upper lip, the cheeks, the nose, and the lower eyelids were absent. The conjunctiva of the lower lids was everted and was attached to the underlying bone. The turbinal bones were exposed and the mucous membrane of the nose was very vascular. Cicatricial contraction had caused eversion of the lower lip. The superior maxillæ were covered with thin adherent scar tissue. An attempt to restore the upper lip by taking flaps from the neck and lining their inner surface with flaps taken from over the angles of the lower jaw failed. The flaps sloughed, leaving the face worse than before. Dr. Senn then decided to take a flap from the scalp from ear to ear. It was necessary to take precautions against sloughing of the huge flap and to guard against subsequent undue contraction by lining with skin that part of the under surface of the flap which would ultimately become part of the mouth. The first object was attained by detaching the flap in different stages and by lowering it gradually into position, and the second by lining the under surface of the central two-thirds with Thiersch's grafts before it was moved from its bed. Extensive baldness and an excellent state of the scalp were favourable conditions for the operation. The whole scalp was thoroughly shaved and disinfected. On Nov. 7th, 1901, the base of the flap on the left side was made by making two incisions which ran upwards and forwards, one from a point in front of, and the other from a point behind, the ear. The flap was detached from the temporal and occipital fascia and reunion was prevented by interposing strips of gutta-percha tissue. On the 12th the operation was repeated on the right side. On the 26th the anterior incisions were united by an incision across the frontal eminences extending down to the fascia of the occipito-frontalis muscle, from which the entire flap was lifted away. That part of the margin which was to form the lip was lined with a thin narrow strip of skin from the forehead which was sutured to the under surface of the flap with catgut. The remaining part of the under surface of the flap was covered with large Thiersch's grafts taken from the thigh. These grafts were protected with strips of gutta-percha tissue. The whole head was covered with a large gauze compress saturated with normal saline solution and heat and moisture were preserved by a gutta-percha cover. The future prolabium and the grafts united by first intention. On Dec. 3rd the posterior incisions were extended to within two inches of each other. On the 12th the whole of the huge flap, consisting of nearly half of the scalp, was completely detached but left in place, adhesion being prevented by interposing gutta-percha tissue. On

the 21st the flap was lifted from its bed and lowered over the face and the large granulating scalp wound was covered with Thiersch's grafts. Both flap and grafts were covered with a salt water compress. On Jan. 2nd, 1902, the flap was sutured in position. The superior maxillæ were vivified by dissecting off the scar tissue with forceps, knife, scissors, and a sharp spoon. Union took place throughout except at a limited space below the nares which was closed later after the nasal cavity had been opened by an incision through the flap. On April 10th the left lower eyelid and on the 22nd the right were restored by a flap from the temporal region. In January, 1903, rhinoplasty was performed by König's method. The final result was a great improvement. The patient could speak plainly and neither saliva nor food escaped during mastication.

THE SUPPLY OF VACCINE LYMPH IN SCOTLAND.

IN the matter of the supply of vaccine lymph Scottish medical practitioners have for some years felt themselves to be at a disadvantage as compared with their brethren in the southern portion of the United Kingdom. Glycerinated calf lymph is universally recognised as possessing, on the whole, several advantages not obtainable with humanised lymph whether employed by the method of arm-to-arm vaccination or otherwise, and in England the Government laboratories manufacture it on a large scale, sending hundreds of thousands of tubes to the National Vaccine Establishment of the Local Government Board for distribution every year. In Scotland, on the other hand, compulsory vaccination was introduced in 1863, but neither in the Vaccination Act of that year nor in any subsequent enactment is there any provision for the supply of calf lymph. With the object of remedying this defect there has recently been held in Edinburgh a conference attended by representatives of the Royal Colleges of Physicians and Surgeons of Edinburgh, the Faculty of Physicians and Surgeons of Glasgow, the medical faculties of the four Scottish Universities, the Scottish Branch of the Incorporated Society of Medical Officers of Health, and the recognised teachers of vaccination in Scotland. It was unanimously resolved that the conference was of opinion that an institution for the preparation of calf lymph should be established by Government in Scotland and a committee was appointed to draw up a memorial in this sense for submission to Lord Balfour of Burleigh, Secretary of State for Scotland. In the memorial and in an appended statement it is mentioned that calf lymph is in great demand in Scotland both for primary vaccination and revaccination and that the only available source of supply is by purchase from private manufacturers, over whose method of preparing it no external supervision is possible. The memorialists ask that vaccine lymph shall be distributed gratuitously to all medical practitioners under such regulations as may be considered necessary, and they argue with perfect correctness that the outlay required for this purpose would be very moderate in comparison with the expenditure on epidemics of small-pox. The memorial was presented to Lord Balfour at the London office of the Secretary of State for Scotland on July 15th, the case in support of it being stated by Sir Thomas R. Fraser, Dr. R. Farquharson, M.P., Baillie A. Graham of Glasgow, Councillor Lang Todd of Edinburgh, and Sir Michael Foster, M.P. Lord Balfour, in his reply, criticised the terms of the memorial with much frankness and remarked that the conditions of vaccination in England and Scotland were by no means identical. He urged the deputation to take care that they did not do anything to destroy the system of vaccination that had gained the confidence of the people of Scotland. Sir John Batty Tuke, M.P., in thanking Lord Balfour for receiving the deputation, promised that further definite information on the subject would be supplied.

THE ILLNESS OF LEO XIII.

UNDER date Rome, July 13th, one of our Italian correspondents writes: "His Holiness, contrary to all prevision, professional or lay, is still maintaining his struggle for life and that with a serenity, not to say *bonhomie*, most remarkable. He seems, indeed, less anxious and preoccupied than are those in immediate charge of his health. To-day's bulletin, issued at 9 A.M., announces that his condition, tranquil before midnight, was disturbed at intervals during the small hours, the restlessness resulting in slightly increased depression this morning. The pulse was 82, the respiration 32, the temperature 36° C., and diuresis still scanty—a symptom coincident with the formation of liquid in the pleura. Paracentesis thoracis up to the hour of sending off this letter has not again been practised, but Dr. Lapponi and Professor Mazzoni may have to resort to it once more, as it is always well borne and produces instantaneous, if only temporary, relief. It is remarked that Dr. Rossoni's signature for two days has not appeared below the bulletins with those of Dr. Lapponi and Professor Mazzoni. This is ascribed to his having been taken ill, but such, I am informed, is not the fact. The truth is that that able and experienced consultant found he could do no more than confirm the diagnosis and treatment to which his two colleagues had adhered and so, while always at hand to reinforce them with his skill, he has, on his own initiative, retired for the time from assisting at the consultations. That the report should have got about that he was ill is hardly to be wondered at. The anxiety, the excitement, caused by the vicissitudes of the Holy Father's illness and the momentous issues its fatal termination would involve, have told heavily on the whole *personnel* of the Vatican, not excluding the medical staff and the brethren of the Apostolic College. Even the 'gentlemen of the press' have had their ranks thinned by the laborious routine they have to observe—bivouacking till a late, or rather till an early, hour under the Bernini colonnades, while their colleagues, off duty for the time, have been taking what rest they could snatch in the cafés adjoining the Piazza of St. Peter's. The demand for news as to the illustrious patient is as widespread as it is insatiable and the resources of the lay journals of both hemispheres are taxed as they have never been before. Returning to the medical aspects of the situation I may add that in spite of the Holy Father's tenacious physical and moral fibre, in spite of his indomitable 'will to live,' and notwithstanding the acknowledged ability and sleepless vigilance devoted to his care, to-day's prognosis in professional circles is in full accord with the tenour, far from sanguine, of this morning's bulletin." The telegrams of July 14th and July 15th tell a story of almost imperceptible sinking. There is no change for the worse save what is implied by there being no change for the better. Dr. Rossoni's name re-appeared on the evening bulletin of Wednesday last.

A DEPUTATION from the Parliamentary Association of the British Union for the Abolition of Vivisection waited upon Mr. Akers-Douglas on Wednesday, July 15th, to protest against the increase of vivisection and received from the Home Secretary in his reply a very salutary reproof.

THE proceedings of the annual Congress of the Royal Institute of Public Health commenced in Liverpool on July 15th at St. George's Hall, when an address was delivered by the President, the Earl of Derby, K.G.

THE Jenner Institute of Preventive Medicine has circulated a memorandum with regard to the proposed change of

the name of the institution, the circumstances narrated being those which will be found in THE LANCET of July 4th, p. 49. The governing body proposes that in future the institute shall be called "The Lister Institute of Preventive Medicine," a choice of name which in the circumstances of the case will be warmly approved by all interested in scientific progress.

IT is proposed to hold an international exhibition in Manchester in 1905 and a committee appointed to take the necessary preliminary steps is issuing circulars to ascertain the views of those likely to be interested in the project. Science, in its most recent technical application, it is hoped will be adequately represented.

THE Belgrave Hospital for Sick Children, which is situated in Clapham-road, London, S.W., near the Oval, will be opened by H.R.H. Princess Henry of Battenberg during the afternoon of July 20th.

THE SUPPLY OF NURSES.

WHEN it was announced that at the thirty-fourth annual conference of Poor-law guardians for the West Midland district to be held at Malvern on May 12th, 1903, the Local Government Board inspector, Dr. A. H. Downes, would read a paper on Nursing in Workhouses and the Report of the Departmental Committee, conjectures began to arise in the minds of those interested in nursing questions as to the manner in which he would deal with the task before him. The recommendations made by the departmental committee having been received with so much adverse criticism and with almost general dissatisfaction by those engaged directly and indirectly in the training of nurses, it was expected that the paper would contain something in the form of a reply to the critics and possibly something that might tend to lessen the widespread dissatisfaction. There were those of optimistic temperament who felt assured that the substance of the paper would foreshadow a complete remodelling of the recommendations of the departmental committee. The event, however, made it clear that expectations were not to be realised, for the paper proved to be little more than a recapitulation of facts and conditions already quite familiar to those who have studied the nursing question. Finding that no advances had been made and that the position had not been changed by the generally expressed disfavour which the suggestions of the departmental committee had met with the Workhouse Nursing Association called a conference in order to discuss the situation.

By the kindness of the Right Hon. J. G. TALBOT, M.P., who presided, the conference was held at 10, Great George-street, Westminster, on June 29th and was well attended. Miss Wilson, treasurer of the association, after sketching the progress of the nursing movement of the past few years stated her conviction that the "qualified nurse," so called by the departmental committee, will be a deceit and a fraud and she maintained that the root of the difficulty of providing trained nurses has not been touched by the report of that committee. She advocated the creation of a nursing department of the Local Government Board and urged that it should include a large number of ladies who were trained nurses.

Mr. BONHAM CARTER, secretary of the Nightingale Fund, defined a trained nurse as one who is able to carry out intelligently the orders of a medical man and then proceeded to say that it was essential that any woman before she is capable of this service must go through a course of teaching sufficient to enable her to learn why she has to do this or to do that in this way or in that way. He laid stress upon the points that the moral qualifications necessary for probationers are not properly recognised; that they can only be recognised by trained matrons and trained superintendent nurses of experience; that they should be recognised during the first year of training; that if they be found wanting during the first year the probationer should be rejected as unfit for her calling; and, finally, that it is impossible for them to be recognised in small workhouses. He concluded with an admission that the report of the departmental committee is a very valuable document showing many interesting facts and exhibiting the great knowledge of those who have drawn it up. Nevertheless, he hoped that the recommendation contained in it would be withdrawn.

Miss BRODIE HALL (Eastbourne), in her experience as a Poor-law guardian, had observed that a large number of probationers after little more than a year or so of workhouse life disappeared from the public service. Among the factors causing workhouse nursing to be so unpopular she considered the chief to be the anomalous position of the workhouse matron. She was, however, opposed to the suggestion that the matrons should be trained nurses and act in the double capacity of nurse and matron. She was of opinion that many country workhouses are fitted to do good work in the training of nurses and yet no nurse in these houses can receive a certificate however valuable the practice may be. She therefore suggested that a Government certificate might in these instances be awarded for three years' work. The speaker, however, failed to define the amount of teaching to be given, the scope of the examination, if any, to be passed, the nature and source of the testimony as to moral aptitude for the calling, and the method by which the Government would obtain the information which would warrant the issue of a certificate of competency.

Mr. HEYWOOD JOHNSTONE, M.P., dealing with the recommendation in the report of the departmental committee, stated that if it were carried out the result would be that very inefficient nurses in large numbers would be sent forth. The places of training in the future would be chiefly the minor training schools, where young women would so easily obtain the title of "qualified nurse," only one year of semi-instruction, and that consisting, perhaps, of no more than mere routine, being required. Once possessed of a title that puts them on a footing with the nurses of the large training schools the young women will certainly not remain in the Poor-law service.

Miss LOUISA TWINING, who has devoted so much thought and energy to the subject under discussion, after reviewing the work of 42 years, tabulated certain desiderata which we may briefly note. 1. Women inspectors should be appointed, as they see things which men cannot discover. 2. A sub-inspector should be allotted to every district. 3. The smallest workhouses should be amalgamated in order to give facilities for the classification of inmates and for the better treatment and nursing of the sick and infirm. 4. Nurses should be bound to stay in the Poor-law service for a certain number of years. 5. Independent control of nurses in all domestic matters should be given to the trained matrons of large infirmaries. 6. A nursing department of the Local Government Board should be constituted and it should contain a due proportion of trained and experienced nurses.

Miss C. J. WOOD explained the disappearance of nurses from workhouses after a year or so of practice by stating that they went into private nursing homes as skilled nurses. In her opinion they were a danger to the public. When they could flaunt a Government certificate after 12 months' residence in a workhouse it would be impossible to keep them in the Poor-law service. They would go to the nursing homes where large salaries could be earned.

Miss AMY HUGHES, speaking from personal experience, described the difficulties met with by nurses in workhouses, mainly attributable to two causes—the absolute ignorance of many masters and matrons of the necessities of the sick and the fact that the masters and matrons were the advisers of most country boards of guardians, the medical officers and superintendent nurses having no voice in the various matters pertaining to the administration of the sick wards.

Miss BAKER, Poor-law guardian, drew attention to the good that would result from the establishment of a central board of nursing, a standard examination, suitable titles for different grades of nurses, and uniformity of payment for those grades throughout the country.

Mrs. BEDFORD FENWICK was strongly in favour of State registration by a central board which would define the standard of education and arrange the examination for a minimum qualification.

After a few further remarks a motion was proposed by the Right Hon. J. G. TALBOT, M.P., seconded by Mr. BONHAM CARTER, and carried unanimously:—

That this conference desires to lay before the President of the Local Government Board its judgment on some of the recommendations contained in the Report of the Departmental Committee on Nursing of the Sick Poor in Workhouses, and would ask that a deputation be received by the Board.

One observation we feel called upon to make. None of the speakers dealt with the period of training of the hospital

nurses or the position hospital nurses are to occupy under any new scheme. Is it not a fact that in some hospitals one year only of training is given to certain ladies? In our opinion any system of State registration that does not include the hospital nurses and does not demand from them evidence of training equal to that required from nurses of large infirmaries will be most unsatisfactory.

THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

ELECTION OF PRESIDENT.

A QUARTERLY meeting of the Council was held on July 9th, the President, Sir HENRY G. HOWSE, being in the chair.

The PRESIDENT reported the result of the election of members of Council on July 2nd, as already reported in THE LANCET of July 4th, p. 64, and Mr. H. T. Butlin, Mr. G. H. Makins, and Mr. C. T. Dent were introduced, made declarations in the terms of the oath prescribed by the charter of 1800, and took their seats as members of the Council.

Mr. William Frederick Haslam was introduced and admitted a member of the Court of Examiners.

The SECRETARY reported the death on June 25th, at the age of 80 years, of Mr. William Cadge of Norwich, member of the Council from 1880 to 1896, and stated that Mr. Reginald Harrison had attended the funeral as the representative of the College.

The following motion was then passed:—

That the Council hereby express their deep regret at the death of their former colleague, Mr. William Cadge, and their appreciation of his services to the College whilst a member of the Council. That the Council do also record their warm regard for Mr. Cadge, not only for his admirable skill as a surgeon but for his great liberality in the cause of suffering humanity, and they are assured that his long and honourable career of usefulness will cause his name to be always held in esteem and remembered with gratitude.

The PRESIDENT reported that on July 2nd, the day appointed for a meeting of Fellows, the required quorum of 30 was not obtained and that accordingly no meeting was held. The subject of these meetings of the Fellows was referred to the committee on the annual report to consider and to report.

A letter was read from the director of the City of Nottingham Museum and Art Gallery asking the Council to lend it the portrait of Sir Spencer Wells. It was decided to comply with the request.

The Council then proceeded to the election of the President and Mr. John Tweedy was chosen. Mr. Henry Morris and Sir Alfred Cooper were appointed Vice Presidents.

The following professors and lecturers were appointed: Hunterian Professors (three lectures each), Mr. A. W. Mayo Robson, "The Surgery of the Pancreas"; Dr. Arthur Keith, "Valvular Mechanism in the Venæ Cavæ and Pulmonary Veins"; Mr. L. B. Rawling, "Fractures of the Skull"; and Mr. T. C. English, "The After Effects of Head Injuries." Erasmus Wilson lecturer: Mr. E. M. Corner, "Acute Infective Gangrenous Processes (Necroses) in the Alimentary Tract." Arris and Gale lecturers: Mr. J. H. Parsons (two lectures), "On the Neurology of Vision"; and Mr. P. J. Cammidge (one lecture), "The Physiolcgy and Chemistry of the Pancreas."

A letter was read from Mr. Henry Cunynghame forwarding, by direction of the Secretary of State for Home Affairs, a copy of a circular which has been prepared by the Director-General of the Army Medical Service in regard to a proposed inquiry as to the causes which have during recent years led to the rejection on the ground of physical disability of so large a number of recruits for the army and as to the possible measures by which this state of affairs may be remedied and asking the Council to favour Mr. Akers-Douglas with its confidential observations on the matter. The consideration of this subject was referred to a committee consisting of the President, the Vice-Presidents, Sir Henry G. Howse, Mr. Howard Marsh, and Mr. G. H. Makins.

The PRESIDENT stated that the vacancy on the board of examiners in dental surgery occasioned by the expiration of the period of office of Mr. J. Howard Mummery would be filled up at the next meeting of the Council which will be held on Tuesday, August 4th.

MEDICINE AND THE LAW.

The Fees of Medical Witnesses: Proposed Alterations.

THE report of the departmental committee appointed to inquire into the allowances to prosecutors and witnesses in criminal prosecutions has been issued together with a blue-book containing very interesting evidence as to the institution and practical working of the system now in force. The well-founded discontent with a scale of payments which has subjected to pecuniary loss, as well as to trouble and inconvenience, all who have taken part in the public service of bringing criminals to justice has not been confined to the medical profession, but in recent instances medical men by refusing to accept the inadequate fees offered to them, or by declining to become witnesses, have drawn marked attention to the matter. To a great extent the recent appointment of a committee to inquire into the whole matter of allowances to witnesses of all classes at criminal trials is to be traced to the action of medical men and it now seems likely that the medical profession and the public will be their debtors, for the recommendations made are not likely to be ignored. In the course of the inquiry mention was made by medical witnesses of the fees paid for medical evidence at inquests; these, however, did not come within the scope of the reference to the committee and its report consequently does not affect them. The existing scale for medical witnesses is as follows: If residing within two miles for attendance before magistrates a fee not to exceed 10*s.*; if residing at a greater distance than two miles a fee not exceeding £1 1*s.*; mileage 3*d.* per mile each way; for attendance at assizes or quarter sessions for each day a fee not to exceed £1 1*s.*; for each night a sum not to exceed 2*s.* 6*d.* at assizes and 2*s.* at quarter sessions; mileage 3*d.* each way. This, it will be observed, is the English scale. In Ireland and Scotland, both less wealthy countries, the fees are considerably higher. The changes proposed by the committee are as follows. The distinction between evidence given at petty sessions and that given at quarter sessions or assizes should, it is advised, be abolished. The committee, however, recommends, as against this, that any witness detained for less than four hours from his home or place of business shall receive one half the allowance which he would otherwise have received. This regulation will inflict a certain amount of hardship upon medical witnesses who, before leaving home to give evidence, do not know for how long they will be wanted and consequently have to make arrangements for a whole day's absence. Such uncertainty, however, is found chiefly in the case of quarter sessions and assizes, where the time occupied generally exceeds four hours, and so the proposed regulation, as the report observes, will operate chiefly at petty sessions. The new scale suggested for medical and other professional witnesses is as follows. For giving evidence in town of residence, one guinea per case, but for more cases than one not to exceed two guineas for one day. For giving evidence away from the town or place of residence, one guinea per day in addition to the above. The report continues: "We have further had our attention drawn to the frequent cases in which doctors are required to make preliminary examinations of persons of both sexes with a view to a prosecution for an offence under the Criminal Law Amendment Act of 1885 or some offence of a similar nature. After making such examination they are invariably called as witnesses but receive no additional remuneration for the preliminary duty. This appears to us unfair and we recommend that for thus qualifying to give evidence in such a prosecution a doctor should be allowed one guinea for the examination of each person in addition to the allowances he receives as a witness." This deals with the difficulty which led to a deadlock in a case of indecent assault committed for trial at the assizes held at Bury St. Edmunds in June, 1902. The medical men at Bungay had declined to examine the prosecutrix when asked by the police to do so, because they knew that they would have to do this without a fee and would have to lose time and money by attending the assizes into the bargain. It was this case which perhaps did more than anything else to call public attention to the insufficiency of the present scale laid down by Sir George Grey in accordance with the

recommendations of a committee appointed in 1855. With regard to the allowance of 2*s.* 6*d.* or 2*s.* per night for witnesses detained for more than one day and unable to return home it was found by the committee that this sum was protested against as inadequate for witnesses of many descriptions to whom it applied besides medical men, and it is accordingly recommended that it shall be increased to a maximum of 5*s.* per night for all witnesses, provided that the sum allowed shall not exceed the expense actually and reasonably incurred. With regard to travelling expenses the recommendation of the committee again affects other witnesses besides medical men. It is that the railway fare actually and reasonably paid shall be refunded, and that "where there is no railway available any actual expenses incurred should be allowed, not exceeding one shilling per mile one way." From a medical or other professional witness who gives evidence as to facts which have come to his knowledge in the ordinary practice of his profession the committee distinguishes the expert witness. The definition which it lays down constitutes as an expert witness "A person to whose notice a case with which he was previously unacquainted is brought expressly in order that he may qualify himself by his special knowledge to give evidence of facts ascertainable by him or evidence of opinion where such opinion is admissible." With regard to these witnesses the recommendations of the departmental committee would make no change in Sir George Grey's order of 1858, which allots to expert witnesses such allowance as the court may think reasonable. The recommendations thus made will, if carried into effect, bring about an appreciable improvement in the remuneration of medical witnesses, particularly in the case of those attending at police-courts, and in cases of an indecent character where examinations are made. They do not, however, promise any very substantial increase in the fees allotted to medical witnesses who have to spend a long time waiting for cases to come on at assizes or at quarter sessions where there are many prisoners. For cases of this kind Mr. H. Nelson Hardy, who gave evidence as the representative of the British Medical Association, put the fair remuneration at two guineas per case per day, with no deduction where the same witness appears in more than one case. Mr. F. W. Lowndes, surgeon to the Liverpool police, described one guinea as a totally inadequate fee for being detained for a whole day at the assize courts, and Dr H. R. Jones, also a police surgeon at Liverpool, said, in the course of his evidence, "I do not mind the one guinea for one day but when it comes to day after day it ruins practice." In criticising the fees now recommended it is presumed that the "one guinea per case" spoken of by the committee means "one guinea per case per day," the fee under the existing scale, and that the improvement intended consists in an additional guinea where the medical man practises outside the town where the assizes or quarter sessions are held, with an extra guinea for one additional case (if he is employed in more than one). This is a compromise between the present arrangement whereby he is paid for one case only at a time and the payment of two guineas per case per day asked for by Mr. Hardy.

Ballachulish Slate Quarries Company, Limited, v. Lachlan Grant.

The Second Division of the Court of Session, Edinburgh, was, on July 3rd, moved to grant execution pending appeal to the House of Lords in the action by the Ballachulish Slate Quarries Company, Limited, against Dr. Lachlan Grant. Dr. Grant, who for some time acted under an agreement with the company as medical adviser to the quarrymen, has been interdicted from further practising in the district. It may be remembered that the quarrymen supported Dr Grant and that work at the quarry has been practically at a standstill for a time. In the Outer House of the Court of Session interdict against Dr. Grant was granted by the Lord Ordinary and on appeal the Second Division affirmed that decision.[1] An appeal by Dr. Grant has now been taken to the House of Lords and the present case was on July 9th enrolled by the plaintiffs who asked that pending the appeal the decree granted by the Lord Ordinary and affirmed by the Second Division should be executed.

Mr. Clyde, K.C., who appeared for Dr. Grant, opposed the motion and pointed out that to grant it meant not only that Dr. Grant could not practise among the employés of the quarries, but that he would require to demit all the appointments he held, so that however successful he might be in the House of Lords the damage done to him would be irremediable. Besides, the company's work was at a standstill and no men were working at the quarries. He did not object to execution so far as expenses were concerned and he asked that the execution should be limited to expenses.

Lord Moncrieff said that he quite followed the consequences to the respondent. They might be very serious, but what Mr. Clyde was asking was that the company should practically give up the whole of its case.

Mr. Clyde replied that at present the company were not in a position to appoint a medical officer to anybody to whom they had to pay wages, as they had not a man in their employ. Dr. Grant's position was one of the causes of the dispute, but to represent it as the sole cause of the strike of the men was not correct.

Mr. Campbell, K.C., for the company, said he thought that the true aspect of the case was that put by Lord Moncrieff. As the plaintiffs had satisfied the court that they had a title and interest to prevent Dr. Grant from practising, the court should proceed upon their view that their judgment was sound and would be affirmed. Several men were working at the quarries and others had privately intimated their intention to resume work.

The court decided that the plaintiffs were entitled to have the decree of interdict put into execution but that it should not be carried into effect until the respondent had had reasonable time to look round and to endeavour to find some employment for the future. In their lordships' opinion two months would be ample time and accordingly they ordained that the execution should proceed at the expiry of that period. As there was no objection to the execution for expenses that was granted.

[1] THE LANCET, June 27th p. 1821.

THE BATTLE OF THE CLUBS.

PORTSMOUTH MEDICAL UNION.

THE annual report of the Portsmouth Medical Union for the period 1902-03 states that during this time no urgent question has come before the committee and expresses the opinion that this happy state of affairs is largely due to the existence of the union. This is at least highly probable, for all experience goes to show that combination and a spirit of unity within the profession itself have an excellent effect in discouraging encroachments on the rights of individual members. Hence the desirability of medical unions being formed in all considerable centres of population. A case was investigated in which it was reported that certain medical men were in the habit of giving anæsthetics to patients operated on by unqualified dentists. It was found, however, that the actual operator in an advertising firm of dentists was on the Dental Register and that no anæsthetics were given unless the qualified dentist operated. The prospectus of the National Mutual Aid Society was submitted to the committee for comment and was found to be open to the same objections as apply to the National Deposit Friendly Society, especially as regards the absence of a wage limit. Dr. J. T. Leon of Southsea is the honorary secretary of the union.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 8835 births and 3969 deaths were registered during the week ending July 11th. The annual rate of mortality in these towns, which had been 14·3, 14·3, and 14·4 per 1000 in the three preceding weeks, declined again last week to 13·7 per 1000. In London the death-rate was 13·3 per 1000, while it averaged 13·9 in the 75 other large towns. The lowest death-rates in these towns were 5·3 in Smethwick, 6·2 in Tottenham, 6·5 in King's Norton, 7·1 in Barrow-in-Furness, 7·3 in Hornsey, 8·0 in East Ham, 8·2 in Willesden and in Norwich, and 8·3 in Brighton and in Bournemouth; the highest rates were 17·7 in Devonport and in Bolton, 18·3 in Newcastle-on-Tyne, 19·1 in Great Yarmouth and in St. Helens, 19·6 in Merthyr Tydfil, 19·7 in Sheffield, 20·3 in Middlesbrough, 20·4 in Warrington, and 26·0 in Wigan. The 3969 deaths in these towns last week included 441 which were referred to the principal infectious diseases, against 415, 429, and 436 in the three preceding weeks; of these 441 deaths 129 resulted from diarrhœa, 90 from whooping-cough, 89 from measles, 53 from scarlet fever, 47 from diphtheria, 28 from "fever" (principally enteric), and five from small-pox. No death from any of these diseases was registered last week in Hornsey, Hastings, Brighton, Bournemouth, Norwich, Burton-on-Trent, King's Norton, Smethwick,

Derby, Wallasey, Bury, Barrow-in-Furness, Stockton-on-Tees, or Tynemouth; while the highest death-rates from the principal infectious diseases were recorded in Walthamstow, Hanley, Coventry, Oldham, Preston, Sheffield, and Newport (Mon.). The greatest proportional mortality from measles occurred in Walthamstow, Coventry, and Sheffield; from scarlet fever in Bolton; from diphtheria in Great Yarmouth and Hanley; from whooping-cough in Walthamstow, Oldham, Preston, Sheffield, and Newport (Mon.); and from diarrhœa in Hanley, Oldham, Warrington, Burnley, Preston, Hull, Middlesbrough, and Gateshead. Of the five fatal cases of small-pox registered in these towns last week three belonged to Liverpool, one to Hanley, and one to Leeds. The Metropolitan Asylums hospitals contained 77 small-pox patients on Saturday last, July 11th, against 70, 67, and 57 on the three preceding Saturdays; 31 new cases were admitted during the week, against 16, seven, and four in the three preceding weeks. The number of scarlet fever patients in these hospitals and in the London Fever Hospital, which had been 1650, 1644, and 1646 at the end of the three preceding weeks, had further risen to 1700 at the end of last week; 253 new cases were admitted during the week, against 170, 234, and 241 in the three preceding weeks. The deaths referred to the diseases of the respiratory organs in London, which had been 134, 150, and 164 in the three preceding weeks, declined again last week to 127, and were 41 below the number in the corresponding period of last year. The causes of 37, or 0·9 per cent., of the deaths in the 76 towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of deaths were duly certified in West Ham, Bristol, Bolton, Salford, Leeds, Hull, Newcastle-on-Tyne, Cardiff, and in 48 other smaller towns; the largest proportions of uncertified deaths were registered in Liverpool, Manchester, Bradford, Sheffield, Rotherham, and Sunderland.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been 17·0, 19·1, and 16·3 per 1000 in the three preceding weeks, further declined to 16·2 per 1000 during the week ending July 11th, but showed an excess of 2·5 per 1000 over the mean rate during the same period in the 76 large English towns. The rates in the eight Scotch towns ranged from 10·8 in Perth and 13·8 in Edinburgh, to 22·7 in Paisley and 23·3 in Greenock. The 531 deaths in these towns included 31 which were referred to diarrhœa, 18 to whooping-cough, 13 to measles, nine to "fever," six to scarlet fever, four to diphtheria, and one to small-pox. In all, 82 deaths resulted from these principal infectious diseases last week, against 47, 65, and 58 in the three preceding weeks. These 82 deaths were equal to an annual rate of 2·5 per 1000, which was 1·0 per 1000 above the mean rate last week from the same diseases in the 76 large English towns. The fatal cases of diarrhœa, which had been 14, 16, and 17 in the three preceding weeks, further rose last week to 31, of which 15 occurred in Glasgow, five in Aberdeen, four in Dundee, three in Leith, two in Edinburgh, and two in Paisley. The deaths from whooping-cough, which had been 16, 28, and 18 in the three preceding weeks, were again 18 last week and included ten in Glasgow, three in Greenock, and two in Dundee. The fatal cases of measles, which had been nine, 13, and six in the three preceding weeks, rose again last week to 13, of which five were registered in Glasgow, five in Paisley, and three in Edinburgh. The deaths referred to different forms of "fever," which had been three, one, and six in the three preceding weeks, further rose to nine last week, and included two in Glasgow, two in Edinburgh, and two in Greenock. The fatal cases of scarlet fever which had been four, three, and seven in the three preceding weeks, declined again last week to six, of which two occurred in Edinburgh and two in Paisley. The four deaths from diphtheria corresponded with the number in each of the two preceding weeks, and included two in Edinburgh, where the fatal case of small-pox also was recorded. The deaths referred to diseases of the respiratory organs in these towns, which had been 73, 92, and 86 in the three preceding weeks, rose again last week to 90 and were 16 in excess of the number in the corresponding period of last year. The causes of 25, or nearly 5 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 19·7, 22·3, and 17·2 per 1000 in the three preceding weeks, rose again to 18·2 per 1000 during the week ending July 11th. During the past four weeks the death-rate has averaged 19·4 per 1000, the rates during the same period being 13·5 in London and 16·7 in Edinburgh. The 132 deaths of persons belonging to Dublin registered during the week under notice were seven in excess of the number in the preceding week and included two which were referred to the principal infectious diseases, against 11, 13, and five in the three preceding weeks; of these one resulted from whooping-cough and one from diarrhœa. These two deaths were equal to an annual rate of 0·3 per 1000, the death-rates last week from the principal infectious diseases being 1·3 in London and 2·1 in Edinburgh. The 132 deaths in Dublin last week included 18 of children under one year of age and 33 of persons aged 60 years and upwards; the deaths of infants showed a marked decline from the number in the preceding week, while those of elderly persons were slightly in excess. Eight inquest cases and five deaths from violence were registered and 43, or nearly one-third, of the deaths occurred in public institutions. The causes of four, or more than 3 per cent., of the deaths registered in Dublin last week were not certified.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Staff Surgeon J. J. Walsh to the *Kent*. Surgeon H. B. Simpson to the *Kent*.

ROYAL ARMY MEDICAL CORPS.

Lieutenant-Colonel A. W. Browne, half-pay, retires on retired pay (dated July 15th, 1903). Lieutenant-Colonel A. E. J. Crowly, from the Seconded List, to be Lieutenant-Colonel (dated July 7th, 1903).

The following Lieutenants to be Captains (dated May 30th, 1903):—C. H. Carr, E. Bennett, F. P. Lauder, A. C. Adderley, J. Tobin, and H. E. Weston.

Lieutenant K. C. Edwards resigns his commission. Dated July 15th, 1903.

The following transfers have been ordered:—Lieutenant L. L. G. Thorpe, from the Bombay District to the Aden District; Lieutenant W. M. Power, from the Bombay District to the Poona District; and Lieutenant T. J. Potter, from the Aden District to the Poona District.

ARMY MEDICAL RESERVE OF OFFICERS.

Surgeon-Captain P. B. Bentlif to be Surgeon-Major (dated July 11th, 1903).

VOLUNTEER CORPS.

Royal Garrison Artillery (Volunteers):—1st Gloucestershire: Surgeon-Lieutenant J. R. Bibby to be Surgeon-Captain (dated July 11th, 1903); Surgeon-Lieutenant G. S. J. Boyd resigns his commission (dated July 11th, 1903). 1st Lancashire: Surgeon-Captain J. A. Cornett resigns his commission (dated July 11th, 1903).

Rifle: 4th Volunteer Battalion the Norfolk Regiment: Surgeon-Lieutenant W. G. Galletly to be Surgeon-Captain (dated July 11th, 1903). 2nd Volunteer Battalion the Royal Scots Fusiliers: Surgeon-Major W. J. Lawrie resigns his commission (dated July 11th, 1903). 2nd Volunteer Battalion the South Wales Borderers: Surgeon-Captain R. J. Paton to be Surgeon-Major (dated July 11th, 1903). 4th Volunteer Battalion the Queen's Own (Royal West Kent Regiment): The undermentioned Surgeon-Lieutenants to be Surgeon-Captains: A. T. F. Brown (dated June 6th, 1903); H. J. Bryan (dated June 6th, 1903). 2nd Volunteer Battalion the Manchester Regiment: Surgeon-Lieutenant C. C. Heywood resigns his commission and is appointed Lieutenant (dated July 11th, 1903). 2nd Volunteer Battalion the Gordon Highlanders: George Pauton Crarer to be Surgeon-Lieutenant (dated July 11th, 1903). 1st Dumbartonshire: Surgeon-Lieutenant W. B. Armstrong to be Surgeon-Captain (dated July 11th, 1902).

ROYAL ARMY MEDICAL CORPS (VOLUNTEERS).

The Manchester Companies: Lieutenant J. F. Wright to be Captain (dated July 11th, 1903).

VOLUNTEER INFANTRY BRIGADES.

South Lancashire: Surgeon-Major F. J. Knowles, 2nd Volunteer Battalion the Prince of Wales's Volunteers (South Lancashire Regiment), to be Senior Medical Officer (dated July 11th, 1903).

SOUTH WALES BORDER VOLUNTEER INFANTRY BRIGADE.

THE following appointments have been made provisionally in connexion with the Brigade Camp at Towyn-on-Sea for July:—Brigade Field Hospital: medical officer in charge, Surgeon-Lieutenant-Colonel S. B. Mason, V.D., 4th Volunteer Battalion South Wales Borderers; medical officer assisting, Surgeon-Captain C. Humphreys, 5th Volunteer Battalion South Wales Borderers. Sanitary officer: Surgeon-Captain J. Howard Jones, 4th Volunteer Battalion South Wales Borderers. Brigade Bearer Company: medical officer commanding, Major J. W. Davies, R.A.M.C. (Volunteers.); medical officer second in command, Lieutenant J. F. Dwyer, R.A.M.C. (Volunteers); Adjutant, Lieutenant R. A. Cowie, R.A.M.C. (Volunteers). Medical officers in charge of troops: Surgeon-Major J. R. Essex, 3rd Volunteer Battalion South Wales Borderers; Surgeon-Captain D Thomas, 1st Volunteer Battalion South Wales Borderers; Surgeon-Captain Paton, 2nd Volunteer Battalion South Wales Borderers; Surgeon-Captain J. Howard Jones, 4th Volunteer Battalion South Wales Borderers; Surgeon-Captain J. R. J. Raywood, 5th Volunteer Battalion South Wales Borderers; Surgeon-Captain C. E. Humphreys, 5th Volunteer Battalion South Wales Borderers; and Surgeon-Lieutenant J. Griffiths, 1st Volunteer Battalion South Wales Borderers. Brigade-Surgeon-Lieutenant-Colonel Philip E. Hill, V.D., is the senior medical officer of the South Wales Border Volunteer Infantry Brigade.

THE ROYAL ARMY MEDICAL CORPS EXAMINATION.

According to the *Army and Navy Gazette* of last week it is reported that so far only 30 candidates have applied for the 30 commissions in the Royal Army Medical Corps for which an examination is to be held on July 29th, which, it adds, does not look like competition.

REFORMATORY BOYS AS RECRUITS FOR THE ARMY.

A War Office memorandum has been issued to officers commanding recruiting areas pointing out that lads from reformatory schools, if recommended by the superintendents of such schools, should not be prevented from joining the army.

Surgeon-General Sir William Roe Hooper, K.C.S.I., who is President of the Medical Board of the India Office, will not, we understand, retire until January, 1904.

Correspondence.

"Audi alteram partem."

A NATIONAL LEAGUE FOR PHYSICAL EDUCATION.

To the Editors of THE LANCET.

SIRS,—In consequence of your leading article in THE LANCET of Jan. 31st, p. 315, I wrote you a letter which appeared in your issue of Feb. 14th, p. 471. In this letter I ventured to suggest the appointment, with the advice of the Royal Colleges of Physicians and Surgeons, of a Royal Commission to inquire into the causes of the physical deterioration of the people of this country as shown by recruiting statistics. There seems to be good hope that such a commission will be appointed and that trustworthy information may be obtained regarding the three points especially insisted upon by Sir Frederick Maurice—viz., bad teeth, flat feet, and generally weak physique. But even supposing that all the necessary information has been obtained and that legislation has made physical training as compulsory as mental education in schools the desired end will still not be attained. Nor will it even be sufficient to provide good meals at a cheap rate, or in some cases gratis, in schools so that children insufficiently fed at home may be sufficiently fed at school to enable them to take advantage of the physical and mental training provided there. As Mr. John Burns very truly said in the *Manchester Guardian* of April 27th, "The father must drink less alcohol and the mother less tea, take more exercise, and suckle her children." The mother must also know how to feed her children after they have passed their infancy and both fathers and mothers must learn the value of fresh air. They require instruction as much as the children but of a different kind. It is of no use to tell them not to drink so much beer, spirits, or tea unless the craving for these stimulants is removed by enabling them to get proper food which shall not only be nutritious but appetising. We must look to the establishment of cheap eating-houses and coffee-taverns and extended instruction in cookery as the chief agents to which we must trust for the diminution of drinking customs and to the instruction of mothers in the feeding and hygiene of children for the reduction of infant mortality. A great many agencies are already working for the advancement of physical education and health in this country, but for the most part each body works in an isolated manner and loses the advantages which might be derived from coöperation and coördination. The advantage of combined work has been so strongly felt by some of those interested in the subject that more than a year ago we drew up a draft scheme for a national league to promote physical development, but the sudden death of the late Lord Frankfort, the pressure of other duties upon others, and my own severe illness, lasting nearly a year, have prevented further action from being taken in the matter. The present moment seems to be suitable for bringing this scheme forward and for endeavouring to develop a "health conscience" in this country by the combined efforts not of a few medical bodies, as proposed by Dr. T. S. Clouston in his admirable address, but by every sort of agency, individual as well as corporate. In the draft scheme which we had drawn up it was proposed that someone in high position might be invited to become president and that vice-presidents might be found amongst the members of both Houses of Legislature, whilst the clergy, the law, the medical profession, the press, both medical and lay, as well as educational institutions of all kinds, might be incorporated and united in working towards one common end. Such an association might be called a National League for Physical Education or, shortly, a Physical Education League, and by the combined action of the various individuals and bodies who would compose it much greater results might be obtained than could possibly be expected from their isolated action.

I am, Sirs, yours faithfully,

July 14th, 1903. LAUDER BRUNTON.

THE TREATMENT OF GOITRE BY THE USE OF DISTILLED OR RAIN WATER.

To the Editors of THE LANCET.

SIRS,—The following brief notes of two cases may be worthy of the attention of your readers.

CASE 1.—A young woman, aged 18 years, living in service at Blackpool, gradually developed a large goitre. The water-supply is that of the Fylde district, a soft, rather peaty water coming from the moors near Lancaster. Her medical attendant, considering her condition dangerous from obstruction to breathing, recommended her admission to an infirmary with a view to operation. Two years ago she came under my care in the Royal Infirmary, Lancaster. She was of medium size, well developed, fairly healthy looking, but somewhat anæmic. The goitre was large, firm, and equally developed on both sides. The eyes were full and somewhat protruding, the heart's action occasionally irregular, but the pulse was not rapid. Breathing became embarrassed at night and on lying down. Having regard to the doubtful and perhaps very harmful effects of operation I tried other measures. Most of the drugs usually employed were given a successive trial; iron and digitalis, iodine and iodide of potassium, hydrofluoric acid, and many others were tried in vain. At the end of four months the goitre was as large as ever, though the patient was less anæmic and the breathing less obstructed, due, perhaps, to the quiet, restful life. Considering that there is very clear evidence connecting many cases of goitre with the drinking water, though the exact nature of the mischievous elements in the water remains undiscovered (the Fylde water is regarded as very good), and considering, further, that water in its course over and through the earth when collecting towards a reservoir must meet with all kinds of animal and vegetable impurities, besides mineral matter, and that even the most skilful analytical chemist cannot detect everything (witness the new gases argon, neon, and krypton, which have been only recently discovered in the atmosphere after 100 years of analysis), I determined to put the patient on distilled water to drink only. This was obtained in a very palatable aerated form from Messrs. Reynolds and Bransom of Leeds, in syphons,

at a very moderate cost. In a few weeks the tumour was considerably smaller and the girl correspondingly relieved in every way. She was then sent home to her parents and as they lived in pure country air she was instructed to drink rain water only. She faithfully carried out these instructions, obtaining the rain water from a spout from the roof and only occasionally having to filter it from the appearance of a black speck or so of soot. The goitre gradually subsided and in about six months no vestige of it remained.

CASE 2.—A middle-aged patient of medium build and of somewhat "nervous" temperament, had suffered for the past 12 or 15 years from a large goitre completely covering the front of her neck which was double its usual circumference. The tumour was somewhat irregular to the touch, soft in some parts, harder in others, and probably contained one or more cysts. Attacks of obstruction to breathing during sleep at night awakened her in fright and gave her husband great anxiety. She had been treated by me for years with little or no success and had, moreover, consulted leading authorities in London and Germany. Thyroid treatment was of slight temporary service but appeared to me not to be devoid of danger, there being much circulatory weakness. Practically she was no better—in fact, getting worse—when, as a result of my experience in Case 1 I determined to try distilled water. In such a long-standing case where no doubt much tissue alteration must have taken place I did not anticipate more than amelioration. The tumour, however, subsided in size with considerable rapidity. Now it is about half the size that it was before the treatment was commenced (some eight months ago) and the distress in breathing and other troubles are gone.

CASE 3.—This was a young lady in the south of England who had developed a large goitre in late years which obstructed her breathing. Her friends consulted me about her some six months ago. I ordered distilled water and am informed that she is rapidly improving. These are the only three cases I have had in practice since adopting the treatment and they have all done well.

During a recent conversation in London with Dr. F. T. Roberts, he said that he believed my idea of using no drink but distilled or rain water in these cases was entirely new and that he regarded it as an important discovery (if further experience should prove it to be correct) which should be made public without delay. The question naturally suggests itself whether some other maladies to which we are becoming more liable may not be related to some undiscovered influence in our water-supplies, which are more and more derived from reservoirs and collections through strata of unknown nature. In an able article on the Increase of Cancer in the *Nineteenth Century* for June statistics are given proving pretty conclusively that among other causes the water from certain forest regions on the continent is open to grave suspicion.

I am, Sirs, yours faithfully,

July 13th, 1903. C. A. RAYNE, M.D. Lond., &c.

THE EXTIRPATION OF CULEX AT ISMAILIA.

To the Editors of THE LANCET.

SIRS,—I beg to inclose for publication the translation of a report received by me from the general secretary of the Suez Canal Company regarding the effects of the anti-malaria campaign at Ismailia since the visit of Sir William MacGregor and myself last September. While it is obviously too early to speak definitely regarding the result on the malaria rate the secretary is able to announce that mosquitoes of the genus Culex "ont été supprimés d'une manière presque absolue." Under the term "Culex" I think that he means to include also gnats of the genus Stegomyia. I have received confirmatory evidence from a gentleman in Egypt who says that he was recently able to sleep at Ismailia without mosquito nets.

The campaign against Culex at Ismailia originally promised to be a difficult one owing to the large number of sewage cisterns under the houses and the result shows how easily a simple and obvious idea like that of diminishing mosquitoes by dealing with their breeding places can be acted upon by an intelligent and effective executive which sets to work at once instead of wasting time on useless discussions, as for the most part we have been doing in British possessions during the last four years. It is to be hoped that, following the work of Gorgas at Havana and Logan Taylor at Freetown, the result at Ismailia will be accepted as clinching the proof of the possibility of diminishing Culex (at least) in tropical towns.

I am, Sirs, yours faithfully,

Liverpool, July 11th, 1903. RONALD ROSS.

Translation of letter from M. le Secrétaire-Général de la Compagnie Universelle du Canal Maritime de Suez, Paris, to Major Ronald Ross, Liverpool School of Tropical Medicine.

SIR,—I have the honour to inform you that, following your mission of last September, numerous works of drainage and filling up of ditches have been effected and that a permanent department has been created for the purpose of oiling cisterns and pits and suppressing marshes and pools of water amongst the habitations of Ismailia. Moreover, measures of prophylaxis, consisting of the gratuitous distribution of quinine and arsenic, commenced in the month of April, 1902, are continued without interruption.

Since last December the number of cases of fever has very sensibly diminished by comparison with previous months and with the corresponding period of last year and this decrease is maintained until to-day.

Owing to the time at which the sanitary works were undertaken, the complete disappearance of the anopheles is not yet realised, but it can be stated that recently captured insects have not been infected, which can perhaps be attributed to the fact that the number of cases of fever have been considerably reduced.

On the other hand, it is interesting to note that, thanks to methodical petrolage and to the incessant surveillance of the breeding places of mosquito larvæ the mosquitoes called culex have been suppressed in a manner almost absolute and that in the hottest period of the year it has been possible to abandon the use of mosquito nets.

Regarding the consequence of these measures a definite statement cannot be made until after August to November next, the principal malaria season. We have every ground for hoping that the efforts with which you have been so usefully associated will end in the complete extinction of malaria in the town of Ismailia and we will communicate with you when we receive definite information on this interesting subject."

MEDICAL DOCTRINES OF HEREDITY.

To the Editors of THE LANCET.

SIRS,—The position taken up by Dr. G. Archdall Reid in his letter in your columns of July 4th, to the effect that the germ plasm is incapable of receiving permanent injury by the agency of poisons circulating in the blood, is one that cannot be permitted to pass unchallenged. It is, of course, freely to be conceded that the main cause of variation in the organic world is the union of two slightly dissimilar germ cells in the process of bisexual reproduction, the importance of which process in phyletic development cannot be overestimated, as it is to this that we are largely indebted for the exuberant variety which we see everywhere around us. But to deny the possible existence of other causes of variation does not seem to be a philosophical position. It seems impossible to suppose that the delicate cells of which the germ plasm is composed should be wholly uninfluenced by being placed in an adverse nutritional environment such as must exist when alcohol or other poisons are circulating in the blood. The growth and development of the cells of the germ plasm are alone rendered possible by the nutrient fluid conveyed to them by the blood of the host, and it is inconceivable that germ cells should be exempt from the operation of biological laws, and that the nature of the nutrient medium by which they live is of no consequence to them. That germ cells, like other cells, have powers of recuperation from injuries received is probable enough, but it is quite another thing to say that such recuperation must inevitably occur. To assume that the germ plasm is uninfluenced by noxious agencies is to suppose that it is a matter of indifference as regards the well-being of the off-spring whether these are born of dissolute parents whose tissues are soaked with alcohol or of these same parents whilst living physiologically correct lives. I do not think that this is the experience of most medical men. The subject is a wide one, but to confine ourselves for the present to alcohol, those of us who have much to do with the insane have been struck with the frequency with which a history of parental alcoholism is found in the family antecedents of our patients. In my presidential address to the Medico-Psychological Association last year[1] I gave some statistics bearing on this point, which though, I freely admit, are far from furnishing precise proof of this relation, are yet very suggestive of a causal relation such as above indicated. Dr. Reid would brush away all such statistics as being of no value, but I maintain that they have an important bearing on the question, even though the intricate nature of the problem and the numerous factors that enter into the case render essential for a definite solution of the question data of a more precise and detailed character than any hitherto available. Dr. Reid

[1] Journal of Mental Science, October, 1902.

rightly lays stress on the well-known fact that nations are resistive to diseases just in proportion to the length of time they have had experience of them, the reason of course being that the units of a community who are most susceptible to these diseases are constantly being eliminated and the nation is continually being recruited from those who are most resistant to them. The case of alcohol, though in some respects comparable, is not exactly parallel, for with diseases it is, generally speaking, the younger units who are wiped out before they have arrived at the stage of propagating their species, whereas in the case of alcohol the baneful effect of this poison is of slower development and comparatively seldom destroys the individual until after the procreative faculty has been more or less fully exercised. If, therefore, alcohol has no influence on the germ plasm it follows that the elimination of the alcoholic individual after he has propagated his race can have no effect in causing the evolution of an alcohol-resistant community. If, however, it has such an influence and if the offspring of an alcoholised germ plasm are on the average less well equipped for the struggle of life than the offspring of other germ plasms not so circumstanced, then the former will eventually succumb in the struggle for existence and the race here, as elsewhere, being recruited from its more stable elements, such an evolution as Dr. Reid contends for will be brought about. I cannot agree with Dr. Reid that "degeneracy" or, in other words, an "unfavourable variation" must necessarily go on accumulating from generation to generation until a whole race is wiped out. Such a proposition necessarily implies that every member of a community is brought under the influence of a poison of such intensity as to preclude the possibility of any stable elements being left; but I fail to see that there is sufficient historical evidence to suggest that every member of any community has been so completely saturated with alcohol as to preclude the possibility of any germ plasms existing untouched by this poison. But in the absence of such absolutely universal poisoning of sufficient intensity, natural selection will follow its ordinary course, and in any case, since individuals differ greatly as regards their resistive capacity to alcohol as to other poisons, the more resistant will have a great advantage over the less resistant in the struggle. Families may decay as the result of some or all of their members having been modified in the direction of instability by the action of alcohol on the germ plasms of their ancestors, but racial degeneration will not necessarily ensue. Whether it ensues or not will depend on the capacity of the community to throw up stable elements to supplant those which have been rendered unstable; and in the presence of such capacity family decay is merely substituted for individual decay, natural selection will pursue its course unchecked, and the nation will be continually recruited from those families which are either most resistant to the action of alcohol or have come least under its influence.

I am, Sirs, yours faithfully,

Rainhill, July 9th, 1903. J. WIGLESWORTH.

THE PRINCIPLES OF MEDICAL ETHICS IN THE UNITED STATES.

To the Editors of THE LANCET.

SIRS,—While making a short stay in London, in reading THE LANCET of July 4th my attention was arrested by the views of your New York correspondent on the subject of the agitation concerning the code of ethics of our profession in the United States which has been more or less existent since 1882. Quite an opposite view from that taken by your correspondent is entertained by a large number of the profession, especially in the State of New York, on some points of his discussion. I therefore beg, as one of the active participants in this agitation, that I may be allowed to briefly present that view. The Medical Society of the State of New York, a representative and incorporated body of the regular medical profession which has been in existence for nearly 100 years, in the year 1882, having hitherto adopted the code of ethics of the American Medical Association, changed this code, chiefly in the matter of freedom in consultation with all legalised practitioners. The State society was led to this action by the fact that the State, in consequence of the expulsion of homœopathic practitioners from the regular county medical societies of the State some years before, had legalised these practitioners and organised them into a body with powers equal to those of the State society organised early in the last century. Many in the State society at that time advocated the abolition of all *written* codes of medical ethics. In the face of great opposition in other States and some in our own, the New York State society in 1886 went further and abolished all reference to a code in its by-laws. But that society and all the societies represented in it, the New York Academy of Medicine being one of them, has ever since, in spite of the absence of a written code, maintained the highest standard of professional ethics. The object of this important action of the State society was not to secure consultations with homœopathic practitioners, but to establish a *modus vivendi* with them preliminary to securing their coöperation in the passage of a law making the same requirements of all practitioners of the State as to qualifications for practice within the State. The result was accomplished. Having been placed on an equal footing with the regular profession by that profession itself, as they had been already by the State, the Homeopathic State Society united with that of the regulars in securing one of the best laws that exists in any country regulating the licensing of practitioners of medicine. This law came into force in 1891. Now, no man or woman can practise medicine in our State, no matter what degree or degrees they may have, unless they have passed a satisfactory and rigorous examination on all points in medical science. This examination is conducted by an independent board of medical examiners appointed by the board of regents of the University of the State. Homœopaths, regular practitioners, eclectics, even members of the Colleges of Physicians and of Surgeons in London, graduates of Paris or Berlin, physicians from other States of the Union, all must pass this State examination or not be allowed to practise in our borders. The only exception made as to uniformity in the examinations is that homœopathic and eclectic practitioners may be examined with different questions in therapeutics. In other respects the papers are of the same character. This law has been copied in other States of our country, notably by Pennsylvania, Virginia, Illinois, and others. It will be seen by this statement of facts that the Medical Society of the State of New York had a much broader aim than that of "mitigating the restrictions of the old code" in abolishing all written codes of etiquette, and that their action has been followed by the most beneficent results to the profession, results which were fully in the mind of its members when they took upon themselves the responsibility and breasted the obloquy which their action involved. That action has finally been fully vindicated by the sentiments of the various States of the Union as represented in the American Medical Association. This association has hitherto refused representation to the Medical Society of the State of New York but at the next meeting that representation will undoubtedly be accorded and the strife over the code be ended.

I am, Sirs, yours faithfully,

D. B. ST. JOHN ROOSA, M.D., LL.D.,
Formerly President of the Medical Society of the State of New York.

Savoy Hotel, London, July 8th, 1903.

A SIMPLE MEANS OF RESTORING THE APPARENTLY STILLBORN.

To the Editors of THE LANCET.

SIRS,—The following practical hint may be worth recording in THE LANCET. After cleansing the mouth and nostrils of the child the medical attendant should close the latter with the thumb and forefinger, surround the mouth completely with the lips, and blow sufficiently to inflate the lungs fully. I have often been astonished at the rapid and successful result.—I am, Sirs, yours faithfully,

Armfield Plain, July 9th, 1903. W. G. PRETSELL.

THE ADMINISTRATION OF THYROID GLAND IN GLYCOSURIA.

To the Editors of THE LANCET.

SIRS,—I am trespassing on the space of THE LANCET to call attention to the value of thyroid gland in some cases of glycosuria. The cases to which I refer are common amongst the obese of both sexes. They are especially common amongst prosperous city men who eat too much and drink too much and take too little exercise. In these cases I have found that thyroid gland causes the disappearance of the sugar from the urine. The efficient dose varies with each

case. As a rule two of Burroughs and Wellcome's small tabloids (gr. 1½) given three times daily will suffice, but after a time this dose may have to be increased and I sometimes find it necessary to give two of the large tabloids (gr. 5) three times daily. As to the mode of action of the thyroid in these cases I suggest that it acts by stimulating metabolism and promoting assimilation of the carbohydrates. The increased metabolism is evidenced by the diminishing fat.

I am, Sirs, yours faithfully,

J. MCNAMARA, M.D., B.Ch., B.A.O. R.U.I.

July 12th, 1903.

THE "CORKING" OF WINE.

To the Editors of THE LANCET.

SIRS,—In THE LANCET of July 11th there appeared an annotation having reference to the causes of the "corking," as it is called, of bottled wine and containing some very interesting suggestions as to the origin of this spoiling of the odour and flavour of the wine. I want, however, to call attention to the fact that if the cork of a bottle that had such spoiled wine in it be examined each of the small brown specks which exist ordinarily in the substance of cork will be found to be surrounded by a halo of bluish tint due to a special fungus. This fungus yields the spores that infect the wine and is probably one of the schizomycetes or of the fungus proper, aspergillus fumigatus. Therefore it behoves the wine merchant carefully to inspect the corks he uses in his business so that a possible source of disorder may be obviated.

I am, Sirs, yours faithfully,

July 11th, 1903. T. W. N.

THE GERMAN SURGICAL CONGRESS.

(FROM OUR BERLIN CORRESPONDENT.)

(Concluded from p. 127.)

Hernia in Children.

DR. MAAS (Berlin) gave an account of Operations for Hernia performed on Children. He had come to the conclusion that after the first year of life the radical operation was preferable to the application of trusses. The technique of the operation in children was quite simple; in patients under ten years of age it was not necessary to suture the ring as was the practice in the case of adults. In umbilical hernia the so-called tobacco-pouch suture was better than the ordinary continuous suture. Dr. Maas never used drainage and closed the wound with a collodion dressing. His experience was based upon 82 operations on children, of whom 66 boys and seven girls suffered from inguinal hernia and nine children from umbilical hernia.

Dr. CREDEL (Hanover) said that in his opinion when the patients were young children the application of a truss ought to be tried in the first instance provided that there were no symptoms of strangulation. In operating he used the Bassini method just as in the case of adults.

Dr. ECKSTEIN (Berlin) read a paper on the Treatment of Hernia by Injections of Paraffin according to the method devised by Professor Gersuny of Vienna for improving the appearance in cases of saddle-nose and other deformities. He also showed some patients.

Professor GERSUNY said that his method was employed in conditions for which it was not in the least adapted, hernia being one of them. He considered that it was absurd to make a prosthetic appliance of paraffin in a case of operable hernia; the hernia was only masked by the broad paraffin plate.

Appendicitis.

Dr. PAYR (Graz) said that he had operated on 53 cases of appendicitis, in 21 of which the operation was performed within 48 hours after the first appearance of the symptoms. In his experience early operations yielded good results, his mortality being between 2 and 3 per cent. He explained that by an early operation he meant one that was performed soon after the first appearance of symptoms, even though these symptoms might be mild; an operation performed after alarming symptoms had set in ought not to be called an early one, even though it took place within a few hours after the beginning of the illness.

Dr. SONNENBURG (Berlin) and Dr. FEDERMANN (Berlin) communicated a paper on the Diagnostic Value of the Leucocyte Count in Appendicitis. They had found that the number of leucocytes increased in the blood when an abscess was in course of formation and they believed that in appendicitis this increase afforded a means of forming an opinion as to the progress of the inflammation. When an operation was in prospect the leucocytosis curve ought to receive the same consideration as the pulse or the temperature curves. In favourable cases the leucocytosis curve fell rapidly but when it remained high for a considerable period the prognosis was serious.

Dr. SPRENGEL (Brunswick) and Professor RIEDEL (Jena) both expressed the opinion that inferences drawn from the leucocyte count were untrustworthy.

Pneumococcic Peritonitis.

Dr. VON BRUNN (Tübingen) read a paper on a Form of Peritonitis the special feature of which was the presence of pneumococci in the fluid. The symptoms were comparatively mild, so that the surgeon was apt to be surprised when an exploratory puncture showed the existence of pus. If the fluid was not evacuated by operation perforation of the abdominal wall might occur, especially in the umbilical region. In children spontaneous recovery was often observed, due partly to the great amount of fibrin contained in the exudation which led to the formation of adhesions and to the arrest of the inflammation and partly to a diminution in the virulence of the pneumococci. The disease in the early stage was liable to be mistaken for appendicitis, but a point of difference between them was the diarrhœa in peritonitis; in the chronic stage it might simulate tuberculous peritonitis and in that case the diagnosis would be assisted by observing the absence of tuberculous growths.

Professor KÜSTER mentioned an instance in which the exudation had given rise to a perforation in the intestine and had made its escape in that way.

Professor BRAMANN said that he had seen the disease develop as a sequel to pneumonia.

Cardiolysis.

Dr. BRAUER (Heidelberg) gave an account of surgical procedures undertaken for the relief of Chronic Mediastino-pericarditis, a condition in which the exterior of the pericardium becomes adherent to the mediastinal and thoracic walls with the result that the function of the heart is seriously interfered with. Medical treatment being of no avail Dr. Brauer performed an operation which has been called cardiolysis and which consists in resecting some costal cartilages and a part of the sternum so that the heart would have more freedom of movement. He showed two patients in whom œdema, ascites, and some other symptoms of cardiac insufficiency had disappeared since the operation. As the cardiac weakness rendered the employment of general anæsthesia very hazardous in this condition Dr. Brauer recommended that the surgeon should operate very rapidly, that he should refrain from the difficult task of loosening the adhesions, and that he should confine himself to the removal of the above-mentioned structures. Mediastino-pericarditis seemed not to be so rare as had been supposed. Since attention had been directed to it four cases had been discovered by the physicians of the Heidelberg medical clinic; three of them were operated on successfully and one died from influenza.

Wounds of the Heart.

Dr. SCHWERIN (Hoechst) showed a patient operated on by him a year ago for a Punctured Wound of the Right Auricle. After resection of the fourth and fifth costal cartilages access to the wound could only be obtained by lifting up the apex of the heart with a silk loop. Notwithstanding very serious complications, such as pneumonia, pericarditis, and empyema, the patient recovered in two months.

Dr. WOLF described a case in which he had operated when the patient's condition was almost desperate. He sutured the wound in the heart but was not able to reach it until he had seized the heart with bullet forceps and drawn it out of the external wound. Death occurred a fortnight afterwards from pericarditis.

Dr. BARTH (Dantzic) said that he was opposed to the practice of draining the pericardial sac with gauze because of the danger of producing adhesion. He had operated on three patients, one of whom died.

Dr. NOLL (Hanau) also mentioned a case of wound of the heart.

Trephining in Jacksonian Epilepsy.

Professor KRAUSE (Berlin) gave details of four cases of Trephining in Non-traumatic Cortical Epilepsy and referred to

recent researches relative to localisation, especially as regards the posterior central convolution of the brain. In his operations he found that the previously formed opinions as to localisation proved to be failures in every instance and he therefore refrained from attempts at exact localisation. He exposed the cortex by a very large flap, determined what region was involved by means of faradic irritation of the cortex, and then excised the centre in question. The prognosis was bad when no obvious pathological lesion was found.

Professor BRAUN (Göttingen) said that he was very sceptical as to complete recovery being obtained in these cases. A patient on whom he had operated in 1890 remained apparently well for seven years but there was a recurrence of fits six years ago.

Diagnosis of Renal Disease.

Dr. KÜMMELL (Hamburg) read a paper on Modern Methods of Diagnosis in Renal Disease. He said that renal calculi could be detected by the Roentgen rays in every instance. He had found ureteral catheterism to be harmless even when there was tuberculosis of the bladder. He had employed cryoscopy of the urine in 550 cases without having ever been misled by it; in prostatic enlargement he resorted to it for the purpose of ascertaining the condition of the kidneys. He had never observed that the freezing point of the urine was lowered in contagious diseases as some authors had asserted.

Dr. BARTH expressed the opinion that renal calculi could not be detected in every instance by the Roentgen rays; he also spoke in favour of the phloridzin test.

Among the many other papers read before the Congress mention may be made of those on Operations on the Submaxillary Glands by Dr. DOLLINGER (Budapest) and on Cryptorchism by Professor RIEDEL (Jena).

Professor BRAUN was selected as President of the Congress at its meeting to be held next year.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Pollution of Manchester Rivers.

IT is some time since much has been said on the familiar subject of the pollution of our streams and rivers. The summer warmth, however, which we have now and then felt has brought out the characteristic odours of pollution and decomposition so strongly that one naturally turns to the account of the proceedings of the Mersey and Irwell joint committee. At its meeting on July 6th two culprits, whose names are familiar as old offenders, had their cases considered. One is the Failsworth urban district council, concerning which it was stated that the chief inspector had inquired what steps the council was prepared to take for improving the treatment of the sewage of the district but had not received any satisfactory reply. Sir Henry Roscoe's table of analysis showed that a bad sample had been obtained and it was decided to take proceedings against the council. It was also resolved that proceedings should be taken against the other old offender, the Droylsden urban district council, which, it was said, had done nothing to improve its sewage works since it was fined £50 last November for polluting the river. Sir J. T. Hibbert drew attention also to the Salford samples of treated sewage and said one was good, one was fair, and another was bad. An alderman of Salford said the council was "contemplating making some more improvements" and it *expected* to obtain a very satisfactory effluent. Salford has in its time done an immense amount of contemplation, which has not, however, perfected its sewage effluent, but a scheme, it seems, is being drawn up and to account for the bad effluent blame is thrown on certain filters. One of the committee said that its officers were of opinion that the amount of filter space was not sufficient and he thought that a good report followed by a bad one was an indication that should make the corporation alive to the necessity of increasing the area of its bacteria beds. The abominable smell just now from the Irk, a stream that used to be famous for its trout and which runs just under the Manchester Grammar School and the cathedral, renders some newspaper correspondents anxious as to its effect on the health of the boys and their masters, exposed to it as they are for several hours a day. The filthy condition into which we have allowed our rivers to get is not only a danger but a disgrace to a civilised community, and a very costly one too. Is not the joint committee too patient and long-suffering?

Psychic or Psychical Research in Manchester.

A society, which does not seem to have decided as to which adjective, psychic or psychical, shall be used to designate it, was formed in Manchester on July 8th. The minds of some of its inhabitants, it appears, have been "impressed by the usefulness of making dispassionate scientific inquiry into the evidence which is held to suggest the operation of natural laws transcending those with which we have familiar knowledge." There is also, it would seem, a little rivalry in the matter, for they think that Manchester is behind the times in being without a society "with aims and methods analogous to those of the Psychical Research Society in London." One of the prime movers who presided at the meeting, which was held at the "Food Reform" Restaurant, said that the purpose of the society would be "to inquire into all the varied phenomena classed as psychic, hypnotic, magnetic, telepathy, clairvoyance, trance, and so on." This certainly is a full and varied programme for "dispassionate scientific inquiry" into phenomena, the investigation of which will require great acumen and care in the investigators, who will so often be in the near neighbourhood of the hysterical and fraudulent. The chairman traced back the first signs "which have drawn attention to the wonderful manifestations that have occurred at different times all over the world and the knowledge of which has spread, in spite of the opposition of scientific men, religious bodies, and popular prejudice," to "three girls, 55 years ago, in a little wooden house in a village in New York State." It is remarkable what wonderful things originate in America, ranging from labour-saving contrivances to psychical phenomena, which certainly require "dispassionate scientific inquiry." He said that the inquiry into these phenomena could not be conducted alone—people must be united and serious and have perfect confidence in one another. So that in this scientific inquiry there must be no such thing as scientific scepticism, and presumably all that is given in the way of phenomena must be accepted, because the investigators are to be "serious in their attitude and have perfect confidence in one another." "Nothing," it was said, "would be required of the members but endeavour to reach the truth; no creed or dogma would be inculcated." A gentleman who asked for "further light before joining" was told "that the instruments through whom the manifestations are made would, after the manifestations, explain to all present their meaning," which statement must have seemed somewhat cryptic to one seeking further light. The gentleman who presided said that he had been the president of a society called the Manchester Spiritualist Alliance, but "that was, however, a spiritualist society, and it was now intended to form a body independent of any denomination or sect, spiritualist or otherwise." He had resigned the Spiritualist Alliance "so as to devote himself to the new society." The phenomena, he added, were incapable of demonstration and explanation as if they were mathematical propositions and they would be to a great extent dealing with intangibilities, and they would have to take account of many conflicting influences which it was impossible to weigh nicely. An honest endeavour to penetrate the mysteries of psychical phenomena will be welcome to all, but the difficulties are great and the subject is one so tempting to quacks and charlatans and affording so wide a field for imposture, that I am afraid the society must tolerate a little scientific scepticism as well as the "perfect confidence in one another" which is asked for, if its conclusions about these intangibilities are to be accepted.

A Coroner and Mortuary Accommodation.

At an inquest held at Little Lever, near Bolton, on July 4th on the body of an unknown man which was taken from a canal it was stated that there was no mortuary and that dead bodies had to be kept in the outbuildings of public-houses. Mr. Butcher, the coroner, said that if he were a licensed victualler he would force the hand of the local authority by refusing to take the bodies. "He advised the police to take the next to the churchwardens, the responsible party, and if they refused it, leave it on their front doorstep." Probably very few churchwardens are aware of this special responsibility connected with their office, but it seems that it is shared by the overseers of the poor. In the recently published book on "The Law of Churchwardens and Sidesmen," by P. Vernon Smith, LL.D., chancellor of the diocese of Manchester, the state of the

law is given as follows: "If a dead body is cast on, or brought to, the shore from the sea or any tidal or navigable water the churchwardens and overseers of the poor are required to cause it to be interred in the parish churchyard and their expenses in so doing are recoverable from the county." Mr. Butcher seems to have overlooked the fact that the overseers of the poor share this privilege with the churchwardens, and as there are usually two churchwardens and two overseers of the poor in a parish it would put on the police the somewhat invidious task of selecting the most appropriate doorstep on which to leave the dead body.

Suicide or Misadventure?

At the Manchester county court on July 13th His Honour Judge Parry decided a curious case. An ox being driven along the street drank a quantity of petroleum, which caused its death, from a barrel which was not protected in any way. The petroleum was being used by the workmen of the corporation in repairing the highway. The owner of the ox brought forward a claim for damages against the Lord Mayor and corporation for the death of the ox. Judgment was given for the plaintiff for £16 with costs, on the ground that the defendants were guilty of negligence and also that a man must so use his own property as not to injure his neighbour. The strange part of the case is that an ox should drink voluntarily a fatal dose of petroleum. It seems to show a sidelight on the distress that these beasts often endure, for it is difficult to account for the ox drinking petroleum except when suffering extreme thirst.

July 14th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The Health of Dublin.

THE forty-fifth annual report of the board of superintendence of the Dublin hospitals addressed to the Lord Lieutenant of Ireland was circulated on July 11th as a parliamentary paper. The usual tribute is paid to the management and efficiency of the various hospitals which benefit by grants from Parliament. After a brief allusion to the large number of the infirmaries in Dublin the board venture, as they say, "to briefly touch on the principal causes which appear to us to predispose to disease and to tax at times the resources of these hospitals." They are as follows:—

1. The city, being situated for a considerable part on a low-lying and marshy plain, tends to lower the vitality of the population and thus predisposes to disease.
2. The condition of many of the tenement houses remains a disgrace to Dublin, constituting fertile breeding places for disease and having the worst effect, physically and morally, on the poor who dwell in them.
3. The comparative scarcity of employment and its fluctuating nature tell heavily on the working classes. They are often of an improvident nature and when thrown out of employment for any cause generally suffer great misery, which has the effect of debilitating the weak and helpless ones who are supported by them.
4. The church and school accommodation in many districts is quite inadequate and the overcrowding is a fruitful source of spreading disease.
5. In the principal theatres overcrowding is not always strictly guarded against, whilst the humbler houses of amusement, as might be expected, are not scrupulously clean and no doubt contribute their share to the propagation of disease.
6. The insufficiency of wash-houses and public baths makes it difficult for many poor people to maintain themselves in a cleanly condition and in some of the tenement houses water for any purpose is almost at a premium.

Sir Christopher J. Nixon, M.D., on University Recognition of the Profession of Veterinary Medicine.

At a meeting of the Royal Veterinary College of Ireland held in the theatre of the College, Stelbourne-road, Dublin, on July 11th Sir Christopher Nixon, who occupied the chair, delivered an interesting address on the Progress and Future of Veterinary Medicine. His remarks as to a university recognition of the veterinary profession were invested with special importance on account of his own position in connexion with the Royal University of Ireland. He said that he failed to see why a great, useful, and progressive profession like that of veterinary medicine should have no place in the curriculum of a university. Divinity, law, medicine, engineering, and music had baccalaureates and doctorates; agriculture had its diploma and its degree; the profession of teaching was granted a diploma, while commerce had its claims for consideration recognised. Yet a profession which required a reasonably high standard of preliminary education, enforced a four years' curriculum, and required four examinations to be passed before students were given the right to practise had up to the present received no university status or recognition. This anomalous position could, no doubt, be partially accounted for. In the veterinary profession there existed what many members of his own profession earnestly desired to see established—a one-portal system of entrance to the profession. Every student must hold the licence of the Royal College of Veterinary Surgeons of London before being legally entitled to practise, and in this way the evil effects of rival licensing corporations were done away with, whilst a uniform minimum standard of examination was maintained. This fact doubtless retarded any movement for the establishment of a university curriculum and degrees in veterinary medicine. Now, however, both in Ireland and in Scotland a move was being made in this direction and he was quite sanguine as to its successful issue.

The Treatment of Consumption.

A very distinct step in advance was taken in Belfast on June 30th, when a deputation consisting of Alderman J. Graham, M.D., chairman, and other members of the public health committee of the city corporation waited on the cemetery and parks committee, asking that the public health committee should be permitted to erect dry shelters in the walled-in garden attached to Ormeau Park for the benefit of persons suffering from pulmonary tuberculosis. The idea is to adopt in a modified form the plan—suggested by Becher and Lennhoff—carried out in Berlin and other large cities on the continent where the State, municipalities, or private owners give a piece of land which is wired in and a wooden erection placed on it with kitchen, offices, and a hall quite open on one side for bad weather which are all the buildings required. Folding chairs and cane couches are provided. The patients travel there in the morning and return home at night. They receive milk, dinner, and other food, for which they pay cost price or receive free tickets to obtain it. The cases have been previously notified to the medical officer of health, the patients' houses have been disinfected, and they have received advice as to cleanliness, disinfection of sputum, ventilation by open windows, &c. A medical man superintends the place, but every patient remains under the treatment of his own medical adviser or attends at a hospital. A very small staff of nurses, a cook, and a few other assistants are all that are required. The original cost of the institution in Berlin was £350. The cost of the fare, the milk, the dinner, and the tea per patient is in Berlin 9*d.* per day. The above question is to be specially considered at the next meeting of the cemetery and parks committee. It is hoped that the scheme, even in a small way, will be adopted.

The Belfast Branch of the Irish Medical Association.

A meeting of the Belfast and District branch of the Irish Medical Association was held in the Medical Institute, Belfast, on June 30th, Professor J. W. Byers, the President, being in the chair. After the reading of the minutes several of those present at the annual meeting of the Irish Medical Association held in Enniskillen on June 17th (Professor J. A. Lindsay, Mr. S. R. Coates, and Dr. J. R. Davison) spoke in warm terms of the success of that very large gathering of Irish medical men and emphasised the fact that the great aim of the association was to be in the fullest sense of the term a defence organisation "to protect and to promote the interests of the medical profession" in all its departments and not merely the Irish Poor-law medical system which at present was the prominent one which the association was supporting. New rules for the guidance of the members of the branch and for the conduct of business were submitted and passed and it was decided to send circulars to every member of the medical profession within the area of the branch urging him to join and pointing out the fact that it was a medical defence association.

The Ulster Branch of the British Medical Association.

The twenty-fifth annual meeting of the Ulster Branch of the British Medical Association was held in the Medical Institute, Belfast, on July 10th, the President, Professor Thomas Sinclair being in the chair. After the reading of the minutes the annual report of the council for 1902–03 was presented and passed. The name of the branch has been changed from "North of Ireland" to "Ulster." Mr. Thomas MacLaughlin of Londonderry was elected president

of the branch for 1903-04. In the afternoon the out-going president (Professor Sinclair) entertained in the large waiting hall of the out-patient department of the new Royal Victoria Hospital the members of the branch and other medical friends in Ulster to luncheon. There were 350 guests. After luncheon Professor Sinclair proposed the health of "The King," and then "Success to the Royal Victoria Hospital." He referred to the great indebtedness they were all under to Mr. and Mrs. Pirrie. Mrs. Pirrie replied, saying what pleasure it gave her and her husband to see the new hospital completed. Mr. W. Crawford (chairman of the board of management of the hospital) also replied. The Right Hon. W. J. Pirrie, D.L., then proposed the health of the president of the branch, and referred to the success of the new hospital which he hoped would be of the greatest help to the people of Belfast and of Ulster. Professor Sinclair replied. Afterwards the guests inspected the building, with which they were greatly pleased. The room in which the luncheon took place is (like the rest of the hospital) ventilated by the Plenum system, and notwithstanding that in a building 90 feet by 38 there were (counting waiters and attendants and guests) close upon 400 people at the luncheon, that smoking took place afterwards, and that it was one of the hottest days of the season, the room kept beautifully cool and the air quite pure.

Rainfall in June.

In the north of Ireland the month of June was, in reference to its rainfall, rather under the average, 2·05 inches falling on 19 days, while the average for the previous 28 years was 3·09. It was the finest June since 1893. The total rainfall for the year is 19·73 inches which is more than two inches over the average.

Close of the Summer Medical Session in Belfast.

The medical summer session (1902-03) has now ended at both hospitals and college. It is expected the new hospital will be opened for patients after the King's visit so that next October clinical work will be commenced in the new Royal Victoria Hospital, which will be an enormous advantage to the Belfast School of Medicine.

July 14th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Arterial Hypertension and its Treatment in Heart Disease.

AT the meeting of the Academy of Medicine held on July 1st M. Huchard read an important paper upon the above subject. He considered that the question of arterial tension in heart disease was one of great moment. Physiology shows us that the increased tension is mainly due not to the stroke of the heart but to arterial resistance; on the other hand, it is the work of the heart which is affected by the arterial tension. If this tension be lowered the work of the heart is rendered less burdensome and so treatment directed towards lowering arterial tension is of great importance in diseases where the heart undergoes strain, such as angina pectoris, interstitial nephritis, gout, and aneurysm. M. Huchard laid particular stress upon the rôle played by the important and little understood condition of presclerosis—that is to say, arterial hypertension existing in a very early stage apart from any vascular or cardiac lesion. To diagnose this condition frequent examinations must be made as to the state of the arterial tension so that if it be found increased measures may be taken to reduce it. Such measures may be divided into three classes—the dietetic, the physical, and the drug treatment. In the first class a milk and vegetable diet is of importance. Ordinary diet is too rich in meat and gives rise to toxins which in their turn bring about increased arterial tension. In the second and third classes come diuretics, massage, and forced movements. A course at a thermal spring is also of use and such places as Bourbon-Lancy, Evian, Martigny, and Vittel are especially indicated. M. Huchard is strongly of opinion that gaseous baths such as are given at Nauheim for this condition are contra-indicated. He quoted sundry English physicians in support of this idea, such as Clifford Allbutt, Hyde, Sansom, and Burney Yeo. Gaseous baths are of value in those cases in which there is a want of arterial tone, but the French baths of Châtel-Guyon, Châteauneuf, Royat, Saint-Nectaire, Salins de Moûtiers, and Saint-Alban are just as good as Nauheim. Gaseous baths are absolutely contra-indicated in cases of arterial hypertension. Since it has become the fashion to send any and every case of morbus cordis to Nauheim there are always deaths there, without counting the unhappy beings with irremediably damaged hearts who return home to die. Among drugs which are useful to diminish arterial tension M. Huchard has tried the iodides, nitrite of amyl, trinitrine, erythrol tetranitrate, nitrite of sodium, and nitrite of ethyl. He also laid great stress upon the good effects obtained by the use of the serum introduced by Blondel,[1] the effects of which upon arterial tension are very marked. In a patient under his own care in whom the arterial tension was 19 it fell to 13 on the day after the administration of some of Blondel's serum and remained at that height. The dyspnœa disappeared and the patient had some sound sleep, to which he had long been a stranger. The serum offered a means of medication which was full of promise. Opotherapy was also occasionally of use, but thyroid extract and iodothyrine must be used with caution. In fine, treatment directed towards reducing arterial tension is preventive and so is the best kind of medication. M. Albert Robin then spoke in agreement with M. Huchard. Like him he mistrusted the Nauheim baths, but he had great faith in nitrite of sodium which was not toxic except when given in big doses. It might usefully be given in combination with sodium bicarborate and potassium nitrate. M. Robin also gave his evidence in favour of Blondel's serum which he had used in his wards at the Pitié Hospital and which lowers the blood pressure in a very remarkable manner. Blondel's serum is the serum of fresh milk obtained by filtration after coagulation and neutralisation. It acts by means of the oxydases which sterilisation by heat destroys.

The Medical Study Excursion.

The fifth medical study excursion will take place from Sept. 10th to 23rd and will be devoted to the health resorts of the south-east of France. These will be visited in the following order: Salies-du-Salat, Aulus, Ax-les-Thermes, Usat, Les Escaldes, Font-Romeu, Mont-Louis, Carcanières, Alet, Molitg, Le Vernet, Amélie-les-Bains, La Preste, Le Boulou, Banyuls-sur-Mer, Lamalou, Montmirail, Vals, and Le Mont Pilat. As upon previous occasions the scientific head of the excursion will be Dr. Landouzy, professor of clinical medicine in the Paris Faculty of Medicine. Under his direction conferences will be held at the various centres on mineral hydrotherapy, the indications for it and its applications. The railways will provide tickets at half price from the excursionist's place of residence to the starting-point of the excursion, which is Toulouse. Foreigners taking part in the excursion will be able to procure a ticket at this reduction from the railway station at which they arrive in France. A like reduction will be granted at the end of the tour from Lyons, where the excursion will break up for the return journey, to the station at which French territory is left. The fare from Toulouse to Lyons will be 350 francs, which will include all expenses. Those wishing to join the excursion should apply to Dr. Carronde la Carrière, 2, Rue Lincoln, Paris, before August 25th.

The Purification of Drinking Water in the Field.

A report on the above subject was recently presented to the Technical Committee of Health by M. Vaillard. The question is a most important one, for when troops are on the march the first thing that every soldier does on halting is to drink and to fill up his water bottle without stopping to consider whether the water is wholesome or not. Physical means of purification cannot be considered for troops on the march as the halts are generally only of one hour's duration and therefore chemistry must be called in. Some years ago Dr. Allain, *pharmacien major*, drew attention to the bactericidal properties of iodine in the proportion of 1 part to 100,000. M. Vaillard and M. P. Georges have discovered that nascent iodine will destroy bacteria in ten minutes. The method used to obtain nascent iodine is to utilise the reaction between tartaric acid and potassium iodate in the presence of a little potassium iodide. The solution so obtained, when the iodine has done its work, is neutralised by a small quantity of sodium hyposulphite. During military manœuvres it is proposed to give to each man three packets of compressed tablets. The tablets in the first packet are made of potassium iodide and sodium iodate and are coloured blue. 100 tablets contain

[1] THE LANCET, May 16th, p. 1409.

10 grammes of iodide and 1·156 grammes of dry iodate. The second packet contains 100 doses of 10 centigrammes of tartaric acid and these tablets are coloured red. The third packet contains 100 white tablets of sodium hyposulphite, each comprising 0·116 gramme. The water, if possible, should be roughly filtered before applying the purifying agents. Not more than one litre should be used at a time, for in a large quantity of water the excess of carbonates is liable to neutralise the tartaric acid and so to prevent its action on the sodium iodate.

July 14th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

Plague in Berlin.

As mentioned in THE LANCET of June 20th, p. 1772, the death of Dr. Milan Sachs from plague was speedily followed by the appearance of the disease in a male attendant who nursed him; this patient, however, soon recovered. The quarantine measures in force at the Institute for Infectious Diseases practically came to an end about a fortnight ago and the majority of the persons under observation have been discharged. The general circumstances of the outbreak have been discussed both in the Medical Society and in the Society for Internal Medicine, where papers on the subject were read by Dr. Kirchner of the Government medical department, by Dr. Dönitz of the Institute for Infectious Diseases, and by Professor Kolle. Dr. Kirchner said that the promptness with which steps were taken for preventing the extension of the disease was in great part due to the acumen of the practitioner who was first called to see the late Dr. Sachs at his residence and who at once suspected the possibility of the illness being plague. In the discussion fault was found with the inefficiency of the arrangements for the removal of patients suffering from infectious diseases and it was pointed out that shortcomings in this respect might entail serious consequences in the event of an epidemic occurring. Attention was also called to the fact that the quarantine regulations to which ordinary individuals had to submit were suspended in favour of some eminent physicians, including Professor Krause, who, after seeing the patients, were allowed to return home and to fulfil their various engagements as usual.

Death of Professor Gegenbauer.

Professor Gegenbauer, the celebrated anatomist, whose death occurred recently at Heidelberg, was born in Würzburg in 1826 and studied at the university of that city from 1845 to 1850. He began his medical career as assistant physician at the Würzburg Medical Clinic where he remained from 1850 to 1852, but his fondness for anatomy and zoology induced him to give up this appointment and to travel in Sicily where he occupied himself with the anatomy of the lower forms of marine animals. On returning home he was recognised as *privat-docent* at Würzburg, in 1855 he was appointed extraordinary professor of anatomy at Jena, in 1858 he became ordinary professor of anatomy in the same university, and in 1870 he proceeded to Heidelberg. In 1901 he retired from his professorship and spent the last two years of his life in writing his memoirs. Professor Gegenbauer's work extended to almost every branch of anatomy but was mainly on the subjects of comparative anatomy and the theory of evolution. Together with Professor Haeckel of Jena he was one of the early advocates in Germany of Darwin's theory of the origin of species. He was the author of more than 100 articles, essays, and books, among the principal of which may be mentioned "Researches on the Pteropoda and the Heteropoda," "Researches on the Comparative Anatomy of Vertebrates," and text books of comparative anatomy and descriptive anatomy. In 1875 he founded the "Morphologisches Jahrbuch," one of the best of the anatomical reviews and a work to which the majority of the German anatomists have contributed.

Death of Professor Carl Gussenbauer.

The German medical profession has to mourn another loss—namely, that of Professor Carl Gussenbauer, ordinary professor of surgery in the University of Vienna and also at the time of his death rector of the university. Although he was an Austrian by birth and had never held an appointment within the limits of the German empire, he can hardly be regarded otherwise than as a German surgeon not only on account of his close connexion with the German medical world, especially as one of the editors of the German *Archives of Clinical Surgery*, but also as one of the presidents of the German Surgical Association and a member who took an active part in its work. Professor Gussenbauer was born in 1842 at Ober-Vellach in Carinthia and studied at the University of Vienna. In 1867 he took the degree of M.D. (which in Austria entitles the holder to practise medicine just as the State examination does in Germany) and after a year of anatomical work he became an assistant to the celebrated surgeon, Professor Billroth, who had just come from Zürich to occupy the chair of clinical surgery in Vienna. In 1875, though a foreigner, he was appointed ordinary professor of surgery at Liège in Belgium, where he remained for three years. In 1878 he returned to Austria as professor of surgery at Prague in Bohemia and in 1894, after the death of Professor Billroth, he was called to Vienna to succeed his former chief. During his assistantship Professor Gussenbauer studied the histological processes involved in the healing of wounds, a subject which had already been investigated by Professor Billroth. He also described the method of extirpation of the larynx, an operation first performed by Professor Billroth, and he also devised an artificial larynx. He afterwards made experiments on animals with reference to the practicability of resecting the stomach and Professor Billroth was guided by these researches when he endeavoured to perform his first operation on the stomach in the human subject. Professor Gussenbauer subsequently published essays on the spread of malignant growths, on operations on the brain and the nerves, especially of the nervus trigeminus, and on the surgical treatment of pancreatic troubles, and he was the author of many other works. He contributed several chapters to the great encyclopædia edited by Professor Billroth and Professor Lücke. Professor Gussenbauer was held in general esteem not only as a surgeon but also as a man. He was a typical native of the Austrian Alps: his figure was stout, his language, of which the Austrian accent was unmistakeable, was clear and succinct. Towards the close of his life he suffered from cardiac troubles, in consequence of which he retired to his native town where he died from cardiac failure.

July 14th.

OYSTER BEDS AND SEWAGE.—At the meeting of the sanitary committee of the Cornwall county council, held on July 9th, one of the members stated that he had asked the President of the Board of Trade if, in view of the cases of enteric fever caused by oysters reared in insanitary beds, he would consider the advisability of appointing an inspector of oyster beds. Mr. Gerald Balfour had replied that the question of preventing the spread of enteric fever was primarily one for the sanitary authorities, but that the Board of Trade was considering with the Local Government Board whether in particular cases joint action might not be taken by the local authority and fishery authorities with a view to prevent the discharge of sewage in the neighbourhood of oyster beds or to induce the owners to move the oysters to another site.

THE ANNUAL DINNER OF THE BRUSSELS MEDICAL GRADUATES' ASSOCIATION.—The members and friends of the Brussels Medical Graduates' Association dined together at the Trocadéro, London, on July 7th, the chair being occupied by the President of the Association, Dr. A. G. Haydon. In the course of proposing the toast of "Our Guests" the President said that the association gave visible expression to a common grievance and that was the want of a degree for London men on ordinary lines. The present degree of the University of London was an honours degree and beyond the ordinary man. If that grievance were not remedied London as the seat of medical education would suffer seriously. It was an open secret that the London medical schools were at present in great financial difficulties and how could it be otherwise when they considered the advantages which the various provincial, Scotch, and Irish universities offered to students. 90 per cent. of the provincial and Scotch students had medical degrees, while not 20 per cent. of the London men possessed degrees. The toast was replied to by Sir Isambard Owen and Mr. Andrew Clark. Sir William Collins proposed the toast of "The Brussels Medical Graduates' Association," which was acknowledged by Dr. Major Greenwood, and Dr. Walter Smith proposed the health of the President, to which a suitable reply was given.

THE GENERAL COUNCIL OF MEDICAL EDUCATION AND REGISTRATION.

WEDNESDAY, JULY 15TH.

THE General Council of Medical Education and Registration met to-day in accordance with resolutions passed by it on Friday, May 29th last, providing that the consideration of a report by the Education Committee on teaching institutions and reports by the Examination Committee on the inspection of the final examinations of the University of Oxford and the University of London, and on the inspection of the primary examination of the Conjoint Board in England of the Royal College of Physicians of London and Royal College of Surgeons of England, should be postponed until this date.

The chair was occupied by Sir WILLIAM TURNER, K.C.B., the President, and all the other members attended except Sir William Thomson, C.B., Sir Charles Ball, and Mr. George Brown.

President's Address.

The PRESIDENT, in opening the session, said that this meeting was a special one for the consideration of business adjourned from the ordinary session in May last, and in view of its being an adjourned meeting he had not prepared an address; but he did not think that they should begin work without expressing gratification at the fact that one member of the Council had, since they were together before, been honoured by having conferred upon him the dignity of knighthood. That member was Dr. Heron Watson—Sir Patrick Heron Watson—who had been a member of the General Medical Council for 21 years; and it must be a source of pleasure and gratification to all the Council that Sir Patrick had received the honour of which he had been the recipient. In regard to the programme of business it comprised two distinct subjects—one relating to the first year's studies of the medical course and the other to the final examinations of several licensing bodies in England. He thought it might be advisable to deal with these subjects as individual items, taking the former into consideration first. In connexion with the several reports connected with this first division there were two notices of motion on the paper—one in the name of Sir Victor Horsley and the other in that of Dr. W. Bruce. The latter's proposals were substantially embodied in Sir Victor Horsley's, and it would perhaps be advantageous, seeing that Sir Victor Horsley's notice had a conclusion which the other had not that Dr. Bruce should withdraw his notice.

Dr. BRUCE had no objection to follow this suggestion.

The PRESIDENT: Then proceed with the first business.

Teaching Institutions recognised by the English Conjoint Board.

Mr. H. E. ALLEN (the Registrar) stated that the first business on the programme was the report by the Education Committee on returns supplied by the Examining Board in England pursuant to a request made by the General Medical Council in a resolution passed on Feb. 26th, 1902, showing the answers given by the teaching institutions recognised by the Royal Colleges of Physicians and Surgeons in London but not approved by the General Medical Council, regarding the courses of study in chemistry, physics, and biology to be gone through by candidates for the qualifications L.R.C.P. Lond. and M.R.C.S. Eng., with remarks by the Education Committee.

The remarks by the committee were:—

From the statistics presented to, and analysed by, the committee two important facts emerge which the committee think worthy of special emphasis:—

I. The Royal Colleges of England do not demand as an essential for admission to their professional examination in chemistry, physics, and biology that any certified course of instruction in these subjects should be taken subsequent to the preliminary examination in general knowledge. It is understood that at some period the student has studied these subjects in a recognised school but he may present himself for examination in them immediately after passing the preliminary examination, and the licensing body relies for evidence of his knowledge solely upon the results of its own examination.

II. In cases where the whole time spent upon these three subjects is antecedent to the date of the preliminary examination in general knowledge, the licensing body does not permit the prescribed five years' curriculum in medical study to be curtailed thereby. All students are required subsequent to the preliminary examination to devote five years to medical study.

But on the other hand a student whose course of study in chemistry, physics, and biology is taken out subsequent to the date of his preliminary examination is permitted to count, as part of the necessary five years, any period from three months to one year spent in one of the recognised schools, provided that during the period specified—three, six, or nine months, as the case may be—he engages in study in one, two, or all of the subjects mentioned.

In the majority of the recognised institutions biology is not taught, and as a consequence the student who spends a portion of his first year of medical study in one of these schools in most instances confines his professional work to chemistry and physics, and very frequently takes these subjects in conjunction with others which form part of the ordinary school curriculum.

In most of the schools the course of instruction followed in chemistry and physics is less than 15 hours a week, in many it is very much less. And it is evident from the statistics presented that in some of the cases it is actually possible for six months of medical study to be constituted by a course of instruction in chemistry and physics, limited so far as these subjects are concerned to four or five hours a week and taken out at an ordinary grammar school during school hours or at a technical institute, it may be in its evening classes.

Note by Dr. Norman Moore.

It should be observed that the principle generally adopted in the recognition of institutions by the Conjoint Board has been that where the laboratories and appliances are satisfactory, and the teachers efficient, the syllabus and examination of the board will, in chemistry, physics, and biology be sufficient to regulate the course of study.

Sir JOHN BATTY TUKE proposed to move the adoption of this report. Before he could proceed with his proposal,

Dr. D. C. MCVAIL suggested that as the first division of the subjects, as named by the President, contained extremely important matters it would be advisable that it should be taken up in committee of the whole Council in order to secure not only full consideration, but the opportunity to, as it were, express a decision twice. He moved accordingly.

Dr. BRUCE seconded the motion.

On a show of hands 11 members voted for going into committee and 10 against.

The Council thereupon went into committee.

Sir JOHN BATTY TUKE moved the adoption of the report—that on teaching institutions. He wished to say that the committee had considered it their primary duty to collate and summarise the reports laid before them and review them from the standpoint of how far the course of instruction reported upon by the Conjoint Board was equivalent to the first year's course of medical study. In preparing their report the committee were not influenced in the slightest degree by previous reports. They simply summed up the bare facts presented to them. The committee had not taken into account the report of the inspectors or even of the Examination Committee. They thought that the Council should review the report by the light thrown upon it by the committee's report. While he did not hold that it was of importance in every particular, he wished, for a special and particular purpose, to go back on the whole of the unhappy dispute between the General Medical Council and the English Royal Colleges. He wished to remind the Council that in the year 1890 the Council came to the unanimous conclusion that five years of study should constitute the medical course and that conclusion was arrived at provisionally, the proviso being that physics and biology should be included in this course. He believed that the Council's resolution was at first fully acted up to, but in 1893 the first note of discord was sounded by the English Conjoint Board agreeing to allow these two subjects to be taken before registration on the Students' Register. That alteration was made without the consent of, and without reference to, the General Medical Council. In 1894 and later attention was drawn to the fact that attendance at secondary schools in respect to these subjects was accepted by the English Conjoint Board, such attendance being held to be equivalent to a first year's attendance of the *bonâ-fide* study required by the General Medical Council. In this year (1894), as in the previous year, the General Medical Council, trying to meet the views of the English Conjoint Board, gave way. Some members did not agree, but the Council acquiesced for the time being. All they asked for was that the teaching institutions accepted by the English Conjoint Board should be recognised by the General Medical Council. It must be generally recognised, he thought, that the General Medical Council in this decision went a long way to meet the views of the English Conjoint Board and in order to prevent a rupture, but the English Conjoint Board stuck rigidly to what it was advised were its legal rights. He could not help interpolating at this moment his private opinion that the English Conjoint Board would have occupied to-day a much more important position if it had waived its so-called legal rights—if it had said it did so without prejudice to these rights in order to secure unanimity in the matter of British medical education. He (Sir John Tuke) went on to say that in preparing the report the committee had some very considerable difficulty. The information supplied to them was in many cases deficient,

but for that, of course, the committee were not responsible. He was not going to enter into details, but he wished to point out certain outcomes of this report. First, the Conjoint Board, when setting aside the old-established system of education and introducing a new system which represented, or was held to represent, the first year's course of medical study did so, he believed, without due consideration. It could not be doubted that it accepted teaching institutions without due inquiry. And it omitted the essential point as to the character of the instruction given by these institutions. In the second place, the Conjoint Board gave no adequate instructions to these institutions. In the third place, it gave no indication whatever as to the time to be spent every week in the study of the three primary subjects. The committee were of opinion that the minimum time for these subjects should be 15 hours per week and he wondered if the Conjoint Board was aware that in some of these institutions the hours given were no more than four or five per week, possibly at evening classes in night schools. In the face of evidence to this effect what could they say to institutions which the Council itself recognise? What were they to say to the medical schools? What were they to say to the colonial schools? He held that the whole of the connexion with these unrecognised institutions had placed Great Britain and Ireland in a disastrously low position. The immediate result of the English Royal Colleges' action had been that the Students' Register had been slightly dislocated. Speaking for himself, he thought the most disastrous result was that this dispute had gone on for 10 years and had stayed the progress of medical education for a decade. He believed that if there had been loyal adherence to the plan established in 1890 they should by this time have firmly established a general system of five years' medical education before registration. His own opinion as to what action should now be taken was this: this dispute had been going on, as he had said, for ten years, and if left in its present position it might go on for ten years more; the General Medical Council had taken every step in its power to ascertain the value of this study and examination in schools of the class recognised in some instances by the English Conjoint Board and had found that it was valueless. Then what was its duty? He held it to be to report that the study and examination in question were valueless. The time had come when it must be determined what body was to regulate medical study in this county—whether it was to be the Royal Colleges of England or the General Medical Council. Let the General Medical Council hesitate not to determine its position. If the Privy Council stated that the General Medical Council was in the wrong, well and good; then the duty of the General Medical Council would be simply to report to the proper authority its opinion that it was unable to fulfil its statutory duties.

Dr. BENNETT seconded the motion for the adoption of the report which was at once carried.

The Examination of the English Conjoint Board on the Primary Subjects.

The next part of the subject taken up was a "report by the Examination Committee on the report by the visitor and inspector of examinations (Dr. Windle and Professor J. Campbell Brown) on the examination in chemistry, physics, and biology of the Conjoint Examining Board in England of the Royal College of Physicians of London and the Royal College of Surgeons of England, held in July–August, 1902, together with remarks by the bodies inspected (May, 1903)."

Mr. BRYANT, chairman of the committee, read this report, which was prefaced by the following note:—

> The Council will note that the observations received are solely from the Council of the Royal College of Surgeons. The Royal College of Physicians states that "the criticisms and suggestions of its visitor and inspector are under consideration and will be taken into account when the regulations of the first examination next come before the College for revision."

The report proceeded:—

> The visitation of the Conjoint Examining Board in England was held in July and August, 1902, when there were 65 candidates for the biological part of the examination and 109 for the part on chemistry and physics.
>
> On the examination of elementary biology of the Conjoint Board the visitors point out that "it is conducted entirely by the oral method, no paper being set and no practical work required from the candidates" (p. 6).
>
> Each candidate at the above Board was under examination for 15 minutes and of the order and organisation and conduct of the examinations the visitors speak in high praise.
>
> With respect to "the question as to whether the examination was one by means of which it was possible to judge whether a candidate had been properly prepared, with due attention to practical work, or whether his knowledge was merely the result of cram" the visitors report: "That, in our opinion, under the system of submitting the candidate only to an oral examination it is not possible to judge whether the instruction which he has received has been satisfactorily given," and add: "We believe that a few questions to be answered in writing would be an addition of great value and would materially assist in enabling a proper estimate of the candidate's knowledge to be arrived at." The visitors also express their opinion "that the omission of any practical examination is a weakness in the particular instances we are considering" and add, however, that they "do not regard the written part as being of equal value with either the practical or the oral portions of an examination on such a subject as biology."
>
> As a conclusion upon this part of the examination the visitors affirm "that the examination is not one capable of eliciting whether a candidate has been properly taught or has been crammed," and that "this is due to defects inherent in its method."
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> In the reply, dated Feb. 12th, 1903, of the Royal College of Surgeons, on the report of the two visitors, it is stated as follows:—
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> "The examiners of the Conjoint Board collectively report that they have personal knowledge of many different types of biological examinations, including those of Oxford, Cambridge, and London Universities, the India Civil Service, those for entrance scholarships, and many others, and it is their deliberate judgment that the present mode of conducting the examination is that most suited to the circumstances and that it is particularly well adapted for 'eliciting whether a candidate has been properly taught or has been crammed.'"
>
> The above is the collective opinion of the following gentlemen upon the examination in biology:—
>
> Mr. F. G. Parsons, Mr. H. Willoughby Lyle, Mr. P. Chalmers Mitchell, and Mr. Walter G. Ridewood.
>
> This committee agree with the visitors in the recommendation to add a written and practical part to the examination in biology.
>
> The second half of the visitors' work has reference to chemistry and physics. This examination was in all cases partly written and partly practical and in some cases oral. Three hours were allowed for answering from four to six questions—from a paper of eight set—but not more than six were to be attempted. For the practical part of the examination one simple salt or substance was given for analysis and one simple salt was required to be made and shown up in characteristic form and good condition. Candidates were required to write an account of the work they had done. The number of candidates presenting themselves for examination at the Conjoint Board was 109; 73 passed and 36 failed. 28 had been previously examined. 95 of the candidates came from medical schools, of whom 66 (or 69 per cent.) passed, and 29 (or 30·5 per cent.) failed. 14 candidates came from other institutions, of whom seven (or 50 per cent.) passed. An oral examination at the Conjoint Board was only given when a candidate's written paper was rather weak when he was examined in the presence of two examiners. The practical examination at the Conjoint Board was, in the inspectors' opinion, well conducted. But the syllabus or synopsis is described by the visitors as extraordinary, defective alike in matter and arrangement. It is divided into five sections: physics, inorganic chemistry, metals, organic chemistry, and practical chemistry, but the visitors add that next year an amended syllabus is to be adopted which meets many of their objections. In order to make the examination efficient, the inspectors say it would be necessary to set three questions each in physics inorganic chemistry, and organic chemistry, and make it compulsory to answer two questions in each section. The Examination Committee approves of this recommendation.
>
> The visitors state that the candidates were so badly prepared that a higher standard than the one used would have rejected the majority of them, but as "the minimum 50 per cent. marks required on the average of the written and practical is higher than is usual in a chemistry pass examination, the idea evidently of the examiners is to make the questions easy and to require some of them to be answered well." This is a good principle, if the questions demanded were not so few and contained so little of scientific principles that a candidate might very well pass—and does pass—with only an empirical knowledge of a few preliminary facts crammed up from a book or a teacher and with no understanding of elementary principles. The visitors likewise make suggestions as to improvements which are worthy of close attention. The visitors regard the standard as a low one. This committee concurs in this opinion.
>
> In answer to these criticisms of the visitors, the remarks contained in the reply from the Royal College of Surgeons should be considered. The visitors of this Council recognise the fact of the existence of the new syllabus of the Conjoint Board, which they admit meets many of their objections. The Royal College of Surgeons adopts the recommendation of the visitors that three questions in physics should be included in the paper, but are of opinion that the inspectors are in error in supposing that the examination is not sufficient for the purpose for which it is intended. They moreover point out that "in drawing up regulations and syllabus in elementary subjects, the time which may be profitably spent in their study must be considered in relation to the whole medical curriculum." According to the regulations of the Conjoint Board four complete years must be spent in medical studies after passing the examination in biology, chemistry, and physics, as well as five complete years of medical study from the date of the preliminary examination in Arts. The purpose of the preliminary examination now under review "is the testing of such knowledge of chemistry, physics, and biology as a student may acquire in proper laboratories and under sound teachers in the first year of his medical studies." Under the present five years' curriculum a much longer period of study for the large majority of students than one year is often occupied in acquiring and passing these preliminary subjects. During the year 1901 only 30 students completed their examinations at the Conjoint Board at the end of five years, whilst 139 spent between five and six years, and the 214 remainder spent more than six years in medical studies. In the report of the visitors the following statement is made: "We have not been able to compare this examination with any others of its own class, so that we are really contrasting it with an ideal standard existing in our own minds." It does not seem to the committee possible, or even desirable, that a uniform system of examination can be adopted by all licensing bodies, for it is obvious that where several examiners are engaged in each subject and those examiners are changed

from time to time, some will lay greater stress on one part of the examination than another. It should be conceded that not only a difference in method of examination must be recognised, but also a difference in standard. All university examinations are not of the same standard, and if there be a variation of standard in universities variation will exist in regard to all examining bodies. The Examination Committee need hardly remind the Council that the primary examination of this board has been visited and reported on for the first time since the passing of the Act of 1886. The report of the visitors shows that the knowledge of the candidates was low, that they were badly prepared, and that an adequate standard would have rejected the majority of them.

Finally, the committee reports their agreement with the opinion of the visitors that as regards biology "the examination is not one capable of eliciting whether a candidate has been properly taught or has been crammed"; it also agrees that as regards the curriculum of the Colleges "the standard exacted is apparently as high as can be obtained from candidates so imperfectly trained." Concerning chemistry and physics the committee agree with the visitors that "the standard is a low one," and that "the main portion of the practical examination is empirical and not scientific, and is no test either of sound principles or of practical efficiency."

Mr. Bryant, without resuming his seat, said that he had signed the foregoing report as chairman of the committee. At the same time he might say that there was much in the original draft report which he should have liked to have had printed, but his colleagues on the committee thought differently. However, he should now like to enlarge a little and to show what his own wishes were at that time. He did not differ a great deal with what the committee had now said but he did differ a very great deal as to the way in which it had said it. It had emphasised the words of the Council's visitors and it would not allow him any opportunity for explaining away those words. With regard to the examination in biology they saw from the report that it was the deliberate judgment of four leading men that the present mode of conducting the examinations in this subject was "well-suited to the circumstances" and that these four men did not confirm the opinion of the Council's visitors that the examinations were insufficient. The same applied to the physics and chemistry examinations and, moreover, the visitors had recognised to the full that the new syllabus shown them would do away with a great many of the objections they had raised; so, therefore, it came to the question of bettering and improving and to the fact that the Colleges were considering what was best for the profession and the public. The conclusion he came to with full confidence was that the Conjoint Board would work out what was best; it was at present engaged with the work. He had one little fact to mention which he dared to say would be interesting to the General Medical Council. They were aware that year by year the Examination Committee had been asked to utilise so far as it could those valuable reports which the Government provided it with in reference to the medical examinations for the Navy, Army, and Indian Medical Services. He had analysed 20 of them, as he thought they had a bearing on the subject in hand. They referred, of course, to the "pass" or "final" examinations.

The PRESIDENT: But we are on the primary.

Mr. BRYANT: They had a bearing, as showing that these primary examinations had no detrimental effect on the "finals." The results he had obtained were presented in the following—

Analysis of Returns of the Last 20 Examinations for the Navy, Army, and Indian Medical Services from 1883 to 1902.

There were 1512 candidates:—

Conjoint London	577,	of whom	8	per cent.	were	rejected.
,, Scotland	138,	,,	36	,,	,,	,,
,, Ireland	137,	,,	30	,,	,,	,,
University of Edinburgh	203,	,,	14	,,	,,	,,
,, Dublin ...	118,	,,	22	,,	,,	,,
London Apothecaries ...	77,	,,	16	,,	,,	,,
University of Ireland ...	64,	,,	15	,,	,,	,,
,, London ...	49,	,,	No rejections.			
,, Aberdeen...	49,	,,	14	per cent.	were	rejected.
,, Glasgow ...	37,	,,	18	,,	,,	,,
,, Victoria ...	17,	,,	No rejections.			
,, Cambridge	23,	,,	4	per cent.	were	rejected.
,, Durham ...	23,	,,	8	,,	,,	,,

His conclusion was that the "finals" could not have been affected in the slightest degree by what the English Royal Colleges had done in the matter of the first year's subjects. He moved that the report should be adopted.

Dr. MCVAIL seconded the motion—"the motion, not the speech."

Sir VICTOR HORSLEY warned the Council against accepting the idea that the examinations in biology, adequate though they had been declared by leading men to be, were well suited to the circumstances. He had written to the four gentlemen in question asking them what the "circumstances" were, but with one accord they had evaded the question; they had replied that they had reported to the Colleges and they very courteously declined to give him information.

Dr. WINDLE thought the position rather peculiar when they had a chairman of committee presenting a report from his committee and following it up with a speech absolutely condemning that report. If the four gentlemen referred to in the report had said that the examination in biology was a good one he should have differed from them. But he agreed with Sir Victor Horsley that they had done nothing of the kind; they had simply declared that the examination was one well suited to the circumstances. The results of Navy, Army, and Indian Medical Services examinations for the final, after two or three years of interval after the primary, had practically no bearing on this particular question, for great headway might or might not be made by students in such intervals. With regard to biology, he had always held doubts as to whether it was wise to include it in medical education except as an introduction to physiology. Physics he regarded as one of the most important of the elementary subjects and yet the examination in physics at the Conjoint Board was nothing else than a farce—like that of the examiners at the examinations of the three subjects who did not have control of the arrangement but had to follow out some seven laws laid down for them. There was one particular point in connexion with the report which had not been dealt with. That was the portion which showed that he and his colleague in the examination were really anxious to indicate their sense of the bad preparation which many of the students had had before they came up for the examination. But he should like to say that he was not at all satisfied that they had arrived at the proper solution of the method of medical study. If they could cease from disputing at the Council's table and instead sit hours to set up a more ideal curriculum, which he believed was possible, it would be greatly to the advantage of the General Medical Council and to the profession. He supported the motion for the adoption of the report.

Dr. NORMAN MOORE could not vote for the report because he considered it so one-sided. He pointed out that the conclusion had been come to that the method of the Royal Colleges in their examinations in biology was the best method to meet the subject, while as to the examination in chemistry everyone must agree that it was the best that could be conducted.

Mr TICHBORNE urged that too little was made of chemistry as a subject of medical study. In his view chemistry instead of being whittled down ought to be developed. It had been said that it was impossible to get uniformity of standards. It might be very difficult to get it, but he thought the General Medical Council should aim at bringing about uniformity of standards.

Dr. NORMAN MOORE, resuming, said that he thought the Council ought to bear in mind that a good deal of what they were considering was what was the best way of giving medical education. He did not regard this debate as an attack on the Royal College of Physicians. The General Medical Council was altogether too wise to indulge in any such attack. He regarded the debate as a direct endeavour to do everything to forward medical education. Some thought that biology ought to be left out of the early part of medical education; physics was necessary, and a large knowledge of chemistry they were all agreed upon, but exactly how much physics, chemistry, and biology was required was a subject that must be thoroughly discussed. As to the report by Dr. Windle and Dr. Brown, what more could be said than had been said by the College he represented? All criticisms and suggestions of the visitor and inspector were under consideration and would be taken into account. What more efficient answer could be given than that? The General Medical Council knew perfectly well the character of the Royal College of Physicians, and what he had said they must recognise as a remark which was not a chance remark. Was it not a remark made with the fullest sense of responsibility? He should like to put it a little more clearly. In the Royal College of Physicians they were of opinion that in regard to the actual regulations the General Medical Council had no power whatever, but that the responsibility given by Charters and Acts of Parliament was something which they could not get rid of. But

when the College viewed the General Medical Council as a criticising body they viewed it with the utmost respect, as it was the only body that could make comparative criticism. They regarded the General Medical Council with the highest respect and greatest deference as a criticising body and they were of opinion that any criticism forwarded to the College ought to receive the highest respect and the greatest consideration. That substantially was all that need be said for the Royal College of Physicians, but that College worked with the Royal College of Surgeons and he did not say a single word that would suggest a different feeling. The remarks of the Royal College of Surgeons upon the visitors' report he regarded as in no way whatever throwing any slur; they showed the greatest deference to the General Medical Council as a criticising body. He could assure the Council that the matters which had been raised would be discussed not only in the Colleges, but in the joint committees whose opinions were essential to the working of the joint schemes of examination. However, the General Medical Council had been trying to inforce its authority as the regulator of the places of study; the Colleges maintained that the Council had no right to do that.

Dr. MCVAIL failed to see how Dr. Norman Moore, agreeing as he did with the report, should not vote for it. His speech simply brought the Council back to where they were years ago—that the Colleges would give careful consideration to any views expressed by the General Medical Council, but under charters they were not bound to do more; they would give the General Medical Council just what they thought fit. The Council had come to a definite conclusion as to the Colleges' examinations and the institutions which they recognised, and because of that not only should he vote for the adoption of the report but he should also vote for something in the sense of the notice of motion which Sir Victor Horsley had on the paper and which proposed that a representation should be made to the Privy Council that the examinations of the English Conjoint Board were insufficient. But was there no hope of an amicable settlement? They should try again and have some arrangement come to before November next.

Sir C. NIXON was in favour of the appointment of a committee to confer again with the Conjoint Board. He was more in favour of that now that Dr. Windle had suggested their reaching forward to an ideal system of education. At any rate, before proceeding to report any examining body to the Privy Council the General Medical Council ought to be perfectly sure of its own position, for he felt that if the Council proceeded with extreme measures it could not claim to be particularly consistent.

The motion for the adoption of the report was then carried.

The Council then adopted a motion by Sir VICTOR HORSLEY condemning the requirements of the Examination Board in England for its examination in chemistry, physics, and biology, and calling attention to the insufficiency of the courses in these subjects provided at the majority of the teaching institutions recognised by the Board but not by the General Medical Council.

A further motion by Sir VICTOR HORSLEY that the General Medical Council should represent to the Privy Council the inadequacy of the tests exacted by the Board was under discussion when the Council adjourned.

THE ROYAL COLLEGE OF SURGEONS IN IRELAND.—The following prizes were awarded for the summer session, 1903:—Mayne scholarship (£15), R. W Burkitt. Carmichael scholarship (£15), I. Allann. Gold and silver medals in operative surgery, A. N. Crawford and F. J. Cairns; honour certificate, C. A. Cusack. Practical histology: W. St. Leger Moorehead, first prize (£2) and medal; and S. H. Massey, second prize (£1) and certificate. Practical chemistry: D. P. Clement, first prize (£2) and medal; and H. C. Carden, second prize (£1) and certificate. Public health and forensic medicine: Miss C. O'Meara, first prize (£2) and medal; and T. W. Browne, second prize (£1) and certificate. Materia medica: R. M. Brontè, first prize (£2) and medal; and A. J. Faulkner, second prize (£1) and certificate. Biology: F. M. Hewson, first prize (£2) and medal; and W. A. Ryan, second prize (£1) and certificate. The winter session will commence on Thursday, Oct. 1st. A preliminary entrance examination will be held on Monday, Sept. 21st.

Medical News.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—The following gentlemen, having previously passed the necessary examinations and having conformed to the by-laws and regulations, have been admitted Members of the College:—

Aubrey Harvey Davenport Knight, Cambridge University and St. Bartholomew's Hospital; and Thomas De Smith, Cambridge University and London Hospital.

The following gentlemen previously passed the necessary examinations and having now conformed to the by-laws and regulations have been admitted Licentiates in Dental Surgery:—

Herbert James Fox, Guy's Hospital Dental Department; and Albert Sefton Stancombe, Charing Cross and the Royal Dental Hospital.

UNIVERSITY OF GLASGOW.—The following candidates have passed the fourth (final) professional examination:—

M.B., C.M.—Charles Lorn Stewart Gibson.

M.B., Ch.B.—Robert Adam, John William Arthur, Thomas Ballantyne, Thomas Bennett, M.A., Archibald Grainger Bisset, Alexander Blair, Robert George Bradford, John Brown, ¶ Carl Hamilton Browning, Robert Bruce, Robert Bryson, Daniel Lyall Carmichael, Alexander Adam Carruthers, Walter Bartlett Chapman, Alexander Erskine Clark, Andrew Connal, § Samuel Campbell Cowan, John Cross, † David Dickie, David Garfield Dykes, ¶ James Eadie, Cunison Charles Finlator, ¶ James Forsyth, ¶ James Glover, ¶ John Hanson, M.A., William Harvey, § Malcolm Hutton, M.A., B.Sc., John Muir Kelly, Alexander Dingwall Kennedy, Thomas Walker Love, ¶ Thomas Lovett, Donald Macaulay, ‖ James Duff M'Culloch, John Finlay Macdonald, Norman Alexander Macleod, James Anthony Macvea, * Alexander Matheson, M.A., B.Sc., ‖ Spencer Mort, John Baird Morton, ¶ Gavin Muir, ‡ James Carmichael Pairman, M.A., ¶ George Richmond, ¶ Daniel Falconer Riddell, M.A., Peter Hamilton Robertson, William Garrow Shand, John Black Stevenson, ¶ William David Henderson Stevenson, M.A., William Stewart, Arthur William Sutherland, M.A., ¶ John Wilson Sutherland, Peter Lindsay Sutherland, John Allan Thom, John Restell Thomas, Joseph Walker, M.A., William Norman West Watson, ¶ Robert Tait Wells, M.A., John Forrest Weston, James Wilson, John Young (Glasgow), and Watson Young.

Women—Jeanie Auld, Helen Stephen Baird, B.A., Gertrude Dorman Bostock, B.Sc., Mary Charlotte Cameron, Jane Campbell, Jessie Galloway Duncan, Kate Fraser, B.Sc., Jane Reid Foulds Gilmour, Jessie Seath MacEwen, ¶ Anna Pollock Martin, Eliza Jane Miller, Isabel Deane Mitchell, Mary Ann Thompson Ritchings, Martha Hunter Scott, and Elizabeth Helen Smith.

Passed with distinction—* In surgery and clinical surgery, practice of medicine and clinical medicine, and midwifery; † in surgery and clinical surgery and practice of medicine and clinical medicine; ‡ in surgery and clinical surgery and midwifery; § in practice of medicine and clinical medicine and midwifery; ‖ in surgery and clinical surgery; and ¶ in midwifery.

DEATH FOLLOWING THE STING OF A BEE.—A railway signalman living near Kelso in Roxburghshire was recently stung behind one of his ears by a bee and died in a few minutes.

ROYAL COLLEGE OF SURGEONS OF EDINBURGH.—Dr. C. F. Knight has sent to us a copy of a letter addressed by him to the President and Council of the Royal College of Surgeons of Edinburgh requesting the Fellows of the College to pass a motion at the statutory meeting in October authorising the Council to open the Fellowship examination to women.

MIDDLESEX HOSPITAL.—The following appointments have been made by the board of governors of the Middlesex Hospital: Mr. W. S. Lazarus-Barlow, M.D., F.R.C.P. Lond., director of the cancer research laboratories; Mr. W. S. Handley, M.S. Lond., F.R.C.S. Eng., Richard Hollins cancer research scholarship; and Mr. W. F. Victor Bonney, M.D., M.S., M.R.C.P. Lond., F.R.C.S. Eng., obstetric registrar and obstetric tutor.

KING'S COLLEGE, LONDON: DEPARTMENT OF GENERAL PATHOLOGY AND BACTERIOLOGY.—A vacation course in practical and clinical bacteriology will be held daily from 10.30 A.M. to 1 o'clock, commencing on Wednesday, August 5th, and ending on Saturday, August 15th. The course will consist of lectures, demonstrations, and practical work; in the latter the members of the class will make for themselves permanent preparations of the chief pathogenic micro-organisms and will carry out the principal manipulations employed in bacteriological investigations. The fee will be £3 3*s*., including all materials and the use of a microscope. Names must be sent in as soon as possible to the secretary of the College, or to Dr. R. T. Hewlett, the professor of general pathology and bacteriology.

His Majesty the King, as Sovereign Head of the Order of St. John of Jerusalem, has conferred the honorary associateship and insignia of the order upon Mr. John S. Griffiths, M.R.C.S. Eng., L.R.C.P. Lond., of Redland, Bristol.

AN UNLICENSED SLAUGHTER-HOUSE.—At the Exeter police-court on July 6th a butcher pleaded guilty to using his premises as a slaughter-house without obtaining a licence and was fined 20*s*.

PRESENTATION TO A MEDICAL PRACTITIONER.—Dr. G. H. Mounsey, who is leaving Lincoln after having practised there for 15 years, was recently entertained at dinner by his medical brethren and was presented by them with a silver salver as a mark of their personal esteem.

SMALL-POX AT PONTYPRIDD.—Three fresh cases of small-pox were notified at Pontypridd on July 10th. A special meeting of the district council was held on the same day and on the recommendation of Mr. Howard Davies, the medical officer of health, it was decided to purchase tents to supplement the accommodation at the temporary isolation hospital at Treforest.

THE NORTH-WEST LONDON HOSPITAL.—The report of the North-West London Hospital, presented at the annual general court of governors, states that during the past year 601 in-patients were treated in the wards. There were 17,564 out-patients which included 5028 casualties. The financial committee regrets that it has again to report a slight decrease in the amount of annual subscriptions. The total income for the year was £3983. The excess of expenditure over income was £1219.

CULPABLE CARELESSNESS.—At the Exeter police-court on July 6th a woman was summoned for exposing her child, aged 12 years, to the danger of the public whilst suffering from scarlet fever. Evidence showed that the defendant, who had been for many years cook at the fever hospital, was a charwoman, and resided with the child in a single room. Although the child had a rash and the skin eventually "peeled," the defendant said that she did not know that the illness was scarlet fever and that she did not call in a medical practitioner. She was sentenced to a fine of 10*s*. or seven days' imprisonment.

Parliamentary Intelligence.

HOUSE OF COMMONS.

WEDNESDAY, JULY 8TH.

Vaccination in Liverpool.

MR. WEIR asked the President of the Local Government Board whether his attention had been called to the fact that three out of the five vaccinated children under five years of age who had been attacked by small-pox during the present epidemic in Liverpool, and whom the Liverpool medical officer of health alleged at a meeting of the Liverpool health committee on May 21st last had been imperfectly vaccinated, were vaccinated by two of the public vaccinators appointed by the Liverpool select vestry; whether the local authority was entitled to recover these fees from the public vaccinators; and whether he would issue a definition of perfect vaccination with a view to a better understanding on this point between the medical officer of health and the Liverpool public vaccinators.—MR. LONG replied: My attention has been drawn by the Local Anti-Vaccination League to the three cases referred to in the question and I have communicated with the clerk to the select vestry of the parish of Liverpool on the subject. As to one of the cases, the clerk informs me that there is no record of it in the vaccination registers or in the workhouse books of the parish. The other two children appear to have been vaccinated by public vaccinators of the parish, and according to the vaccination registers successful vesicles were produced by the operations. In one of the two cases the child is in the hospital. In the other case the parents have removed and their address is at present unknown, but I understand that in both cases further inquiries will, if possible, be made at the instance of the vestry. Upon the information before me I am not prepared to say that the public vaccinators were not entitled to fees in these cases. The instructions issued by the Local Government Board to public vaccinators direct that in all ordinary cases of primary vaccination the public vaccinator should aim at producing four separate good-sized vesicles or groups of vesicles, not less than half an inch from one another. The instructions state further that the total area of vesiculation resulting from the vaccination should not be less than half a square inch. It does not appear to me that I can do anything further with the view of meeting the point referred to in the last part of the question.

The Medicine Stamp Duty.

SIR JOHN LENG asked the Secretary to the Treasury whether under a notification recently issued by the Board of Inland Revenue a druggist would not be allowed to sell the smallest quantities of pills, powders, mixtures, or other form of medicine without attaching to every descriptive label, either written or printed, a three-halfpenny stamp; whether the Board had considered the extra cost to the poor of this additional charge or the danger of selling drugs unlabelled; and whether, in view of the interests of the poorer classes and of the public safety, the Board would still in accordance with its former intimation recognise the necessity for giving to a preparation such a designation or name as shall distinguish it from other medicines and attribute some further meaning to such words as cough mixture, liver pills, lip salve, teething powders, corn paint, &c.—MR. ARTHUR ELLIOT replied: The change in the practice of the Board has been rendered necessary by the decision of the High Court in the recent case of Ransom *v.* Sanguinetti, the effect of which is to render liable to the medicine stamp duty any preparation sold under a description which refers only to the ailment which it is intended to remedy—e.g., cough mixture. But payment of duty will not be required in respect of a preparation which bears upon the label an indication of its ingredients, such as will bring the article within the scope of the special exemption in favour of known, admitted, and approved remedies, sold by duly qualified persons, as interpreted by the recent decision in the case of Farmer *v.* Glyn Jones.

THURSDAY, JULY 9TH.

Pauper Children.

MR. HARWOOD asked the President of the Local Government Board whether he could state how many orphan and deserted children there were amongst the 52,804 who were entirely dependent upon the rates and amongst the 22,240 who were at present maintained in workhouses and workhouse infirmaries.—MR. LONG, in reply, said: 52,804 is the total number of children classed as in receipt of indoor relief on Jan. 1st, 1902. It includes not only children in establishments belonging to the guardians but also those in hospitals and other institutions where the cost of their maintenance is borne by the guardians. Of this number 34,506 were orphans or children relieved without their parents. The corresponding numbers on Jan. 1st, 1903, are 54,493 and 35,620. Of the children in workhouses, infirmaries, and sick asylums on Jan. 1st, 1903, 10,356 were orphans or children relieved without their parents.

The Physical Condition of School Children.

This subject was discussed again in Committee of Supply on the vote for the Board of Education.

SIR WILLIAM ANSON, Secretary to the Board, made the following interesting statement, viz.:—There are, according to the testimony of an inspector who is very careful and very sympathetic with regard to children, more than 60,000 children in London who are physically inferior and who cannot get the benefit of the teaching in the schools. How does this arise? They start badly. They are the offspring of early marriages and of unhealthy parents; they are overworked—they work before they go to school and they work when they come back from school. They do not get enough rest, because mothers do not take the trouble to get them to bed and they run about the streets until after midnight. They do not have enough food—they go out to school in the morning without breakfast and their housing is bad. I am told that in Lambeth there are 12,000 one-roomed tenancies. Their homes are bad because with the neglect of the parents the influence on the children cannot be good. The result is that these children are usually tired both in mind and body; they cannot sustain their attention, they cannot last through an ordinary day at school. They fall early, any sort of disorder takes easy hold of them, and they are backward to the extent of two, three, and sometimes four years behind the well-fed and well-cared-for child of the same age. Now, what remedy can you find for this? An inquiry was promised the other day in another place and all I can say is that the Board of Education will be most desirous to press for the fulfilment of that promise and be most ready to provide such evidence as will make the inquiry efficient and complete. But after all the Local Government Board may do something in the matter of housing, the Home Office in the matter of the employment of children, and the Board of Education in limiting the size of schools in the poorer districts, so as to insure more individual attention on the part of the teachers. But it is not a case, as it seems to me, in which legislation or administration can possibly say the last word. What we want is to get the parents to live decent lives and to show proper parental affection and care for their children. No statutes can give a new revelation or a spiritual uprising. What is really wanted is volunteer effort, the work of men and women for men and women in these poor places, probably as managers of schools, in getting to know, at any rate, the children in their homes and in trying to impress on the parents that they have duties towards the children whom they have brought into the world.—SIR JOHN GORST said that he was the last man to undervalue philanthropy. But the efforts of philanthropy did not excuse the duty of a Government. Public authorities had no right to sit idle and to say, Let the philanthropists do their work. Three specific remedies for this state of things might be put into operation at once and would do something towards alleviating this unhappy condition of things. If the Board of Education did not do it there was no reason why municipalities and county councils should not move in the matter. In the first place there should be a systematic examination of the physical condition of the children. Let the teachers examine, record, and report if any child in a class was in an abnormal condition; let the teacher make a daily return. Beyond that there should be a regular periodical medical examination conducted by the local authority, such an examination as was conducted by the Egyptian Government in the schools where boys were trained for the public service, and curable defects should be attended to. In many cases children were suffering from diseases which no one but a medical man could detect. There was a practical suggestion and he did not care what was the cost; it would be an economical expenditure of money and he hoped that the hon. baronet, if he did not make the inspection a condition of the grant, would recommend it in a circular. His second suggestion was that some attention should be paid to the ventilation of the schools. He must say that the schools of the London School Board were admirably ventilated. He generally found in country places, where the air outside was most beautiful, the air inside the schools was foul, and it was in such air that the children were cooped up for hours. He feared that the inspectors, the teachers, or the managers were not sufficiently alive to the enormous importance of having the children provided with healthy air. His third suggestion was that the Board of Education or the local

authorities should take steps, he did not say to feed the children, but to see that they were fed. If they undertook to give instruction, either mental or physical, they had no right to enforce it unless they saw that the child was adequately fed. He believed that it would cost very little and if the school authorities would provide a breakfast or even dinner at cost price, he believed that the parents would be glad to pay for it. Of course, this would not be necessary in all cases, because many of the parents were well-to-do artisans and shopkeepers. The teacher should be made responsible for seeing that the children who were not fed were fed.

FRIDAY, JULY 10TH.

Superannuated Irish Medical Officers.

Mr. J. P. FARRELL asked the Chief Secretary for Ireland whether he could state the number of Irish medical officers who have been superannuated under the existing Local Government Acts; in how many cases these grants were made voluntarily; and whether the guardians in any case refused, and, if so, in how many such cases was superannuation so refused.—Mr. WYNDHAM replied: Under Section 118 of the Local Government (Ireland) Act, 1898, 18 medical officers have received superannuation allowances. The local authorities are obliged to grant pensions in the case of all officers qualified as provided by the section.

MONDAY, JULY 13TH.

Sterilisation of Water.

Sir MICHAEL FOSTER asked the Secretary of State for War whether the experiments on sterilisation of water for troops in the field, referred to in his answer of July 31st, 1902, have led to any scheme of sterilisation being put to the test at manœuvres or otherwise, and, if so, with what results.—Mr. BRODRICK replied: Experimental tests have been made with various forms of heat sterilising apparatus and sterilising filters, and on the results of these further tests are being made in Somaliland and will be made at the forthcoming manœuvres. The sterilisation of water in standing camps can be arranged, but in the case of moving bodies of troops great difficulty is being experienced in obtaining really satisfactory results.

Vaccination Officers.

Mr. SEYMOUR ORMSBY-GORE asked the President of the Local Government Board whether the vaccination officers for the Gainsborough union carry out the orders of the Local Government Board and take proceedings in opposition to the wishes of the guardians, and whether the Local Government Board will uphold the officers in their action as they are threatened with dismissal or to be called upon to resign by the guardians.—Mr. LONG replied: It is the duty of a vaccination officer to take proceedings against defaulters under the Vaccination Acts and I understand that the vaccination officers of this union have recently taken proceedings of this kind, although the guardians have been opposed to this course. As regards the last part of the question, the consent of the Local Government Board is necessary before a vaccination officer can be dismissed. I should not be prepared to give that consent where the ground of the proposed dismissal was that the officer had performed his duty in this matter.

Physical Training in Scotland.

Mr. HARMSWORTH asked the Lord Advocate whether the Scotch Education Department had yet arrived at any decision as to carrying out the recommendation of the Royal Commission on Physical Training (Scotland) to add a number of medical and sanitary experts to the inspecting staff under the department.—The LORD ADVOCATE replied: The department has been in communication with some of the larger school boards on the matter referred to in the honourable Member's question but they are not as yet in a position to make any proposals to the Treasury.

BOOKS, ETC., RECEIVED.

BAILLIÈRE, J. B., ET FILS, 19, Rue Hautefeuille, Paris.

Hygiène des Établissements Coloniaux. Par le Dr. G. Reynaud, Medecin en chef du Corps de Santé des Colonies. Préface de M. A. Kermorgant, Inspecteur Général du Service de Santé des Colonies. Price 5 francs.

CHURCHILL, J. AND A., 7, Great Marlborough-street, W.

Modern Bullet Wounds and Modern Treatment. (Part of the Alexander Essay for 1903.) By Major F. Smith, D.S.O., Royal Army Medical Corps. Price 3*s.* net.

The Natural and Artificial Methods of Feeding Infants and Young Children. By Edmund Cautley, M.D. Cantab., F.R.C.P. Lond., &c., Physician to the Belgrave Hospital for Children. Second edition. Price 7*s.* 6*d.*

F. A. DAVIS COMPANY, Philadelphia.

A Text-book of Chemistry. For Students of Medicine, Pharmacy, and Dentistry. By Edward Curtis Hill, M.S., M.D., Professor of Chemistry and Metallurgy in the Colorado College of Dental Surgery. Price $1.00 net, delivered.

A Treatise on the Care of the Expectant Mother during Pregnancy and Childbirth and Care of the Child from Birth until Puberty. By W. Lewis Howe, M.D. Price 50 cents net, delivered.

Surgical Asepsis. Especially adapted to Operations in the Home of the Patient. By Henry B. Palmer, M.D., Consulting Surgeon to the Central Maine General Hospital. Price $1.25 net, delivered.

GLAISHER, HENRY J., 57, Wigmore-street, Cavendish-square, W.

Polyphase Currents in Electrotherapy, with Special Reference to the Treatment of Neurasthenia, Atonic Dilatation of the Stomach, and Constipation. A paper read before the British Electro-Therapeutic Society on Feb. 27th, 1903. By George Herschell, M.D. Lond. Price 2*s.* 6*d.*

A Manual of Intragastric Technique. By George Herschell, M.D. Lond., Fellow of the Royal Medico-Chirurgical Society. Price 7*s.* 6*d.* net.

G. P. PUTNAM'S SONS, 24, Bedford-street, W.C.

The Law of Mental Medicine, the Correlation of the Facts of Psychology and Histology in their Relation to Mental Therapeutics. By Thomson Jay Hudson, Ph.D., LL.D. Price 7*s.* 6*d.*

GRUNOW, FR. WILH., Leipzig.

Lehrbuch der Geburtshilfe. Bearbeitet von F. Ahlfeld. Dritte umgearbeitete Auflage. Price M.9.

HACHETTE ET CIE, 79, Boulevard Saint-Germain, Paris.

Pathologie Mentale des Rois de France. Louis XI. et ses Ascendants. Une Vie Humaine Étudiée à Travers, Six Siècles d'Heredité. 852-1483. Par Auguste Brachet. Price 15 francs net.

HARPER AND BROTHERS, 45, Albemarle-street, W.

New Conceptions in Science. By Carl Snyder. Price 7*s.* 6*d.* net.

HIRSCHWALD, AUGUST, Unter den Linden, 68, Berlin, N.W.

Anleitende Vorlesungen für den Operations-Cursus an der Leiche. Von Prof. E. von Bergmann und Dr. H. Rochs. II. Theil. Operationen an dem Schädel, der Wirbelsäule, der Brust-und Bauchhöhle. Price M.4.

J. B. LIPPINCOTT COMPANY, Philadelphia and London.

Disease of the Pancreas: Its Cause and Nature. By Eugene L. Opie, M.D., Associate in Pathology in the Johns Hopkins University. Price $3.00.

KARGER, S., Karlstrasse 15, Berlin.

Die Pathologie und Therapie der Unfruchtbarkeit des Weibes. Von Dr. Ferdinand Schenk, I. Assistent der k.k. deutschen Universitäts-Frauenklinik Prag. Price M. 3.20.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

BLEASE, ARTHUR TORKINGTON, M.B., Ch.B. Viet., M.R.C.S., L.R.C.P. Lond., has been appointed Resident Medical Officer to the Salford Union Infirmary.

BONNEY, W. F. VICTOR, M.D. Lond., F.R.C.S. Eng., has been appointed Obstetric Registrar and Tutor to the Middlesex Hospital.

BURTON, JOHN S., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Assistant Resident Medical Officer to the St. Mary's Hospital for Sick Children, Plaistow.

DUNLOP, JOHN BRATTIE, M.A. Cantab., M.R.C.S., L.R.C.P. Lond., has been appointed Resident Medical Officer to the Royal United Hospital, Bath.

DYER, CHARLES HAROLD, M.D., C.M. Aberd., has been re-appointed Medical Officer of Health to the Cleckheaton Urban District Council and Medical Superintendent Cleckheaton Small-pox Hospital.

HANDLEY, W. SAMPSON, M.D., M.S. Lond., F.R.C.S. Eng., has been appointed to the Richard Hollins Research Scholarship in the Cancer Department of the Middlesex Hospital.

HARTIGAN, T. J. P., F.R.C.S. Eng., has been appointed Medical Officer in Charge of the Light, X Rays, High Frequency Departments, &c., to the Hospital for Diseases of the Skin.

LAZARUS-BARLOW, W. S., M.D., F.R.C.P. Lond., has been appointed Director of the Cancer Research Laboratories, Middlesex Hospital.

OGILVIE, W. M., M.B., C.M. Aberd., has been appointed Senior Assistant Medical Officer to the Croydon Asylum and Mental Hospital, Warlingham, Surrey.

PLAYFAIR, HUGH JAMES MOORE, M.D. Lond., F.R.C.S. Eng., M.R.C.S. Lond., has been appointed Assistant Obstetric Physician to King's College Hospital.

PRICE, HENRY J., F.R.C.S. Eng., has been appointed Medical Referee under the Workmen's Compensation Acts, 1897 and 1900, of Braintree, Chelmsford, Colchester, Dunmow, Halsted, Harwich, and Maldon.

REED, WALTER HUGO, M.R.C.S., L.S.A. Lond., has been appointed Medical Officer of Health of the Westbury (Wilts) Rural District.

SMEALL, W. F., M.B., Ch.B. Edin., has been appointed Resident Medical Officer to the St. Mary's Hospital for Sick Children, Plaistow.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

ARMY MEDICAL SERVICES.—Examination of Candidates for not less than 30 Commissions in the Royal Army Medical Corps.

BIRKENHEAD BOROUGH HOSPITAL.—Junior Male House Surgeon. Salary £80 per annum, with board and washing.

BIRMINGHAM WORKHOUSE INFIRMARY.—Assistant Resident Medical Officer. Salary £100 per annum, with apartments, rations, &c.

CARDIFF, UNIVERSITY COLLEGE OF SOUTH WALES AND MONMOUTHSHIRE.—Professor of Anatomy. Salary £350 per annum.

CHELSEA HOSPITAL FOR WOMEN, Fulham-road, S.W.—Physician to in-patients.

COLCHESTER EASTERN COUNTIES' ASYLUM FOR IDIOTS.—Resident Medical Attendant, unmarried. Salary £100 per annum, with apartments, board, and washing.

CLAYTON HOSPITAL AND WAKEFIELD GENERAL DISPENSARY.—Junior House Surgeon, unmarried. Salary £80 per annum, with board, lodging and washing.

DOVER, ROYAL VICTORIA HOSPITAL.—House Surgeon, unmarried. Salary £100 a year, with board, lodging, and washing.

EAST SUFFOLK AND IPSWICH HOSPITAL.—House Surgeon, unmarried. Salary £110 per annum, with board, lodging and washing.

GATESHEAD UNION WORKHOUSE.—Assistant Resident Medical Officer. Salary £150 per annum, with apartments, rations, and washing.

GENERAL POST OFFICE (MEDICAL DEPARTMENT).—Second Assistant Medical Officer. Salary £200 a year, rising to £300.

HAYDOCK LODGE ASYLUM, Lancashire.—Assistant Medical Officer, unmarried. Salary £200 a year, with board, washing, &c.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, London, W.C.—House Physician, unmarried. Also House Surgeon, unmarried. Both for six months. Salary in each case £30, with board, and residence.

JARROW-ON-TYNE, PALMER MEMORIAL HOSPITAL (FOR ACCIDENTS).—House Surgeon, unmarried. Salary £150 per annum, with board and residence.

KENT AND CANTERBURY HOSPITAL.—Second Honorary Physician.

MANCHESTER, ANCOATS HOSPITAL.—Resident House Physician. Salary £80, with board, &c.

METROPOLITAN ASYLUMS BOARD ASYLUM, Tooting Bec.—Second Assistant Medical Officer, unmarried. Salary £180 per annum, rising to £200, with rations, lodging, attendance, and washing.

METROPOLITAN EAR, NOSE, AND THROAT HOSPITAL. Grafton-street, Tottenham-court-road, W.—Assistant Surgeon, Anæsthetist, and Clinical Assistants.

MIDDLESEX HOSPITAL, CANCER RESEARCH LABORATORIES.—Research Scholarship. Value £100.

NOTTINGHAM GENERAL DISPENSARY.—Assistant Resident Surgeon, unmarried. Salary £160 per annum, with apartments, attendance, light, and fuel.

ORKNEY, PARISH OF ROUSAY AND EGILSHAY.—Medical Officer. Salary £51 per annum.

OWENS COLLEGE, Manchester.—Junior Demonstrator in Physiology. Stipend £100, rising to £150 per annum.

PRESTON, LANCASHIRE, COUNTY ASYLUM, Whittingham.—Assistant Medical Officer, unmarried. Salary £175, with apartments, board, washing, and attendance.

ROYAL BUCKINGHAM HOSPITAL, Aylesbury.—House Surgeon, unmarried. Salary £100 per annum, rising to £120, with board and apartments.

SHEFFIELD, CITY OF.—Medical Officer of Health. Salary £700 per annum.

SHEFFIELD ROYAL INFIRMARY.—Honorary Surgeon.

SOMERSET AND BATH ASYLUM, Cotford, Taunton.—Assistant Medical Officer, unmarried. Salary £160 per annum, increasing to £200, with apartments, board, &c.

SOUTHAMPTON, ROYAL SOUTH HANTS AND SOUTHAMPTON HOSPITAL.—Junior House Surgeon. Salary £80 per annum, with rooms, board, and washing.

STATE OF SARAWAK.—Medical Officer, unmarried. Salary $300 a month and free quarters.

STOCKPORT INFIRMARY.—Assistant House and Visiting Surgeon. Salary £80 per annum, with board, washing, and residence. Also Junior Assistant House Surgeon for six months. Salary at rate of £40 per annum, with board, washing, and residence.

WALLASEY DISPENSARY AND VICTORIA CENTRAL HOSPITAL, Liscard.—House Surgeon, unmarried. Salary £100, with apartments, board, and service.

WIGAN INFIRMARY.—Junior House Surgeon. Salary £80 a year, with apartments and rations.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—Assistant House Surgeon for six months. Salary at rate of £75 per annum, with board, lodging, and washing.

Births, Marriages, and Deaths.

BIRTHS.

PEDLEY.—On July 8th, at Peckham-road, Camberwell, to Ada Elizabeth and S. Edward Pedley, M.R.C.S., L.R.C.P. Lond., a son.

MARRIAGES.

ACKERLEY—RAVENHILL.—At St. Mark's Church, Surbiton, on Tuesday, July 14th, by the Rev. Canon Ravenhill, vicar of Buckland Newton, uncle of the bride, assisted by the Venerable Archdeacon Burney, vicar of the parish, Richard Ackerley, M.A., M.B., of Croft House, Surbiton, to Constance Mary, youngest daughter of the late William Waldron Ravenhill, Barrister-at-law, and of Mrs. Ravenhill, of Melbourne House, Surbiton.

BISS—SCOTT.—On June 24th, at the parish church, Talland, Cornwall, Hubert E. J. Biss, M.A., M.D. Cantab., D.P.H., to Janie W. Scott, second daughter of Mrs. H. B. Scott, of Torphins, N.B.

CAREY—BLAKE.—On the 9th instant, at Wivenhoe Church, near Colchester, by the Rev. C. B. Ratcliffe, vicar of St. John's, Woodbridge, Conrad de Lisle Carey, B.A., M.B., B.C. Cantab., of Guernsey, to Emmeline A. M. Blake, only daughter of the late Rev. W. Astou Blake, of Melton, Suffolk, and Mr. Blake, of Wivenhoe.

RELPH—MACPHERSON.—On July 7th, at Christ Church, Brondesbury, Arthur Ernest Relph, M.R.C.S., L.R.C.P. Lond., L.D.S. Lond., to Mary Stewart, eldest daughter of Robert Macpherson, Brondesbury.

DEATHS.

SLY.—At Nimule, Nile Province, Uganda Protectorate, Edwin Sly, M.B. Lond., Uganda Medical Service.

WOODHOUSE.—On July 8th, at his residence, Ralsbury, North-common-road, Ealing, W., Robert Hall Woodhouse, M.R.C.S., L.S.A., L.D.S.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

QUACKERY AND CREDULITY.

AN inquest was held at Longton in Staffordshire on July 4th and 8th by the Staffordshire county coroner concerning the death of Frances Owen. The story is shortly as follows. Dr. J. W. Dawes, medical officer of health of Longton, stated that on April 15th his assistant attended the deceased who had had "a stroke." After that he (Dr. Dawes) himself saw her and advised her to go to the infirmary for electrical treatment. John Owen, the husband of the deceased, said that he did not know that his wife was going to the theatre to see "Dr." Bodie. She went on Monday (June 29th) and when she returned home at 11.30 P.M. she said that "Dr." Bodie had given her the battery and that she was satisfied. She said that she felt better and that she had walked home and when she got into the room she began to dance. On the next day she went to the theatre to thank "Dr." Bodie for what he had done for her. He, the husband, did not go but he was told that his wife had an attack in the theatre. She was brought home a little after midnight on Tuesday. She was very ill and could not speak nor did she speak intelligibly before her death which occurred on July 2nd at 10.5 P.M. We may add that Dr. Dawes was called in on Wednesday, July 1st. Walford Bodie, who said that he was an M.D. of America, gave evidence that the deceased came to him on a Monday afternoon. She was suffering from paralysis and was in a very weak state. He hypnotised her and gave her a very weak shock of electricity. Medical men had sent him patients for electrical treatment. On the Tuesday the deceased came again and he told her that she had been exciting herself too much. Dr. Dawes, in continuation of his evidence, a part of which we have already given, said that he had made a post-mortem examination and found that the cause of death was cerebral hæmorrhage. The arteries of the deceased were diseased and so were her kidneys. He did not consider that the electric shock had anything to do with the death but the excitement of the public treatment might very likely have induced the hæmorrhage. The jury returned a verdict of "Death from natural causes" and exonerated "Dr." Bodie from all blame. We do not ourselves suppose that Bodie's electrical treatment had anything to do with the death but it is quite obvious that the poor woman died from the excitement induced by Bodie's exhibition. Probably exactly the same thing would have occurred if she had gone to a religious revival meeting. But Bodie is undoubtedly a quack who trades on being an M.D. of America, which degree, if indeed it exists, is about as valuable as would be the degree of M.D. of Laputa. Mr. Brough, Bodie's counsel, said that he hoped that he had made it perfectly clear that Bodie was qualified in the United States. There is nothing in the evidence before us to show that Bodie was qualified even in the United States, where quacks of all kinds flourish with even greater virulence than they do in this country. We are afraid that the law cannot touch Bodie and others of his kidney, for anyone, however ignorant, can practise medicine in this country provided that he does not pretend to be registered and Bodie seems to have been prudent enough to state in his advertisements that his qualifications are "American," or at all events not to imply that he is registered in this country. The case is one more argument in favour of our often repeated suggestion that all quacks should have to pay for an annual licence which could be revoked at any time and the fee for which should be heavy. Such a licence would be no guarantee of the quack's ability any more than a licence to sell tobacco or alcoholic liquors is any guarantee of the purity or genuineness of the goods sold. But such a licence would do one of two things. Either it would free the country from a pestilent herd of quacks or it would bring in a very substantial sum to the revenue. We ask Mr. Bodie if he will kindly give us the names and addresses of the medical men who have sent him patients.

ALMOST INCREDIBLE!

A PAPER called the *East Ham Echo* on July 3rd published a communication shaped like a letter followed by what purports to be an editorial footnote under the heading "Almost Incredible" which merits a word or two of notice. We are now fairly familiar with the lengths to which the proprietors of many newspapers will go in their abject desire to oblige the profuse advertiser of quack remedies, but we should have considered the insertion of such concealed advertisement not almost, but absolutely, incredible. The "letter" is anonymous and undated and is an unmitigated eulogy of a quack remedy, the writer pretending to have personal knowledge of the dissemination of the stuff all over the globe and asking other people if they know of any quack remedy so popular. The imitation editorial footnote, which begins, by the way, with the assertion that the popularity of the remedy "is almost incredible" (*sic*) asserts that the compound is sold in every corner of the globe and that it is "a remedy vegetable from coating to kernal" (*sic*). We think it extremely discreditable that the proprietor of any paper should be found willing to insert an advertisement of this kind shaped like a letter and followed by an

imitation endorsement from the editor. The footnote has not the word "editor" or any abbreviation of that word affixed but it is appended in exactly the way that the editorial opinion is usually appended to a communication from a correspondent, the whole forming a singularly "incredibable," or rather discreditable, example of the concealed advertisement. The publication of such advertisements is dishonest treatment of the reading public.

A GERMAN CUSTOM IN VICTORIA STREET.

To the Editors of THE LANCET.

SIRS,—There are many things we can learn from the Fatherland. In German suburban gardens it is quite usual for a pit to be constructed, made watertight, and sometimes roofed over; this pit is filled with golden sand, toy spades and buckets are provided, and the happy children try to imagine they are at the seaside. This is a good custom and worthy of imitation here in suburban gardens, but amidst the asphalte paving of Victoria-street, Westminster, I cannot help thinking that such sand pits are out of place. The children have difficulties (between the passing of vans, brewers' drays, omnibuses, and cabs) in getting a sufficient lull in the traffic to get to work with their toy buckets and spades, so that the sand pits are not much use to them, whilst—although possibly this has been overlooked—the sand pits are really rather dangerous to horses and wheels, axles, and springs.

I am, Sirs, yours faithfully,

July 6th, 1903. TALPA.

"A WARNING."

IN THE LANCET of May 16th, p. 1419, we published under the above heading a letter signed by W. A. Anderson, M.B. Edin., which implied that the St. Luke's Hospital, Chemulpo, Korea, was not an institution to which any medical man should go without previously making the strictest inquiry. We then received from the authorities certain documents showing that Dr. Anderson had made a contract with the hospital and that on arrival he was quite unfit to undertake his duties and agreed to terminate his engagement and to waive all claims against the mission, the bishop, and the committee of the hospital naval fund on condition of receiving a first-class ticket to Japan and a second-class ticket thence to England. We therefore consider that Dr. Anderson has no cause of complaint and we may add that on June 24th we wrote to him asking whether he would correct his letter, but to our communication we have received no reply. The St. Luke's Hospital is a portion of the Church of England Mission in Korea and is administered by the bishop and by a committee composed of naval officers and civilians.

SALICYLATE OF SODIUM IN MALARIAL FEVER.

To the Editors of THE LANCET.

SIRS,—I can corroborate Mr. A. D. E. Kennard about the value of salicylate of sodium in malarial fever, having used it since 1897 with almost certain success, especially when large doses of quinine seem to alleviate only for a period. Salicin I also find of similar value. I do not know if Mr. Kennard has found that salicylate of sodium is practically useless unless preceded by quinine, as has been my experience, but personally I always give quinine first for at least 24 hours and then follow it with salicin or salicylate of sodium and these drugs seem to put finishing touches to the treatment which quinine lacks.

I am, Sirs, yours faithfully,

Gower-street, W., July 11th, 1903. A. A. BRADBURNE.

TENDER FEET.

To the Editors of THE LANCET.

SIRS,—I have a patient, aged 50 years, who has all his life had tender feet. Since he had influenza five years ago this has become so distressing that he can take hardly any walking exercise. He lives in the country and has been a total abstainer for nearly a year. Before that he used a considerable quantity of alcohol. The tenderness is not due to perspiration. His boots are of the best. He has suffered for many years from pains in the feet, presumed to be gouty. Can any reader kindly suggest a remedy—local or constitutional—for my patient? and thereby oblige.

Yours truly,

Kildysart, July 13th, 1903. J. J. BLACKALL, M.D.R.U.I.

JOHANNESBURG.

IN the June number of the *South African Medical Record* a Johannesburg correspondent complains of the inadequacy of the payments made to their medical officers by some of the clubs in that town. He thinks that in that colony no club should be accepted under 25*s.* per head per annum, 5*s.* a visit to members of families, and five guineas for maternity cases.

WHAT IS A REASONABLE FEE?

To the Editors of THE LANCET.

SIRS,—Called recently between 9 and 10 o'clock on Sunday evening to a patient of A, a neighbouring practitioner, I found the patient had thrust her arm through a pane of glass in trying to save herself from a fall. The ulnar nerve and artery with three or four superficial flexor tendons were completely severed. After temporary dressing I returned home for an anæsthetic, &c., A being again summoned and shortly in attendance. Some little time later he decided to call in B, a local F.R.C.S. These two then did what was necessary while I administered the anæsthetic. By the time I reached home it was nearly 1 A.M. We are all general practitioners, myself senior by some six or seven years, living within a quarter of a mile of the patient, whose husband is a grocer in a leading thoroughfare with an off-licence. I left the matter of fee in A's hands, saying I should be quite content with the same fee as B. I have just received from A half-a-guinea!

I am, Sirs, yours faithfully,

July 13th, 1903. M.D. DUBH., '82, M.R.C.S., '78.

*** We think that the grocer ought to have valued first aid to his wife, rendered in such anxious circumstances, at more than the price of, say, four pounds of tea.—ED. L.

"A PITHY PAR."

UNDER the heading of "Pithy Pars.—Personal, Parochial, Provincial, and Particular," the *Tuam Herald* of Saturday, July 4th, publishes the following:—

> Mr. James Glynn's resolution at Saturday's meeting of the Ballinasloe board of guardians is as follows: "That no medical officer be appointed in future who does not satisfy the board that he is of temperate habits, neither a politician nor a farmer, nor engaged in mercantile pursuits, and that this resolution be inserted in advertisements for doctors for dispensaries."

We hope that when the advertisement appears it will be found that the medical officer is offered a sufficient salary to live upon. We quite agree with Mr. James Glynn that the medical life ought to be sufficient for the medical man, but the salary ought to be sufficient to support that life, which is not always the case with the Irish dispensary medical officers. We also hope that the members of the board of guardians who are to select the fortunate candidate can furnish themselves with testimonials, that they are not drunkards or sweaters, or discharging duties as guardians with half an eye on the public weal and an eye and a half on their own private businesses. A temperate and altruistic medical officer ought not to be subjected to any possible contamination by the bad example of his employers. We hasten to add that we have not heard a derogatory word concerning the board of guardians of Ballinasloe and we are happy to advertise the fact.

"QUE DIABLE ALLAIT IL FAIRE DANS CETTE GALÈRE?"

To the Editors of THE LANCET.

SIRS,—I am obliged to you for sending me a marked copy of your issue of the 11th inst., in which under the above heading my conduct is criticised. I can only express my sincere regret that I have been drawn into writing to the magazine in question and my further regret that I did not see the copies of THE LANCET in which "on previous occasions" this magazine was commented on unfavourably, as these would certainly have prevented my writing at all. I never read any of the advertisements referred to and had I done so would not have touched the magazine. I disclaim absolutely any intention to associate myself with *Health and Strength*, and I trust my professional colleagues will remember that *nemo moritalium omnibus horis sapit*.

I am, Sirs, yours faithfully,

July 13th, 1903. A. HAIG.

*** We publish Dr. Haig's letter with pleasure.—ED. L.

Mr. J. Smith.—We regret to be unable to depart from our invariable rule, which is not to give medical advice. The surgeon usually employed by the family should be asked for his opinion.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, July 16th, 1903.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radiation in Vacuo.	Maximum Temp. Shade.	Min. Temp	Wet Bulb.	Dry Bulb.	Remarks at 8.30 A.M.
July 10	30·29	S.W.	...	123	86	64	65	71	Cloudy
" 11	30·14	S.W.	...	126	86	66	66	72	Hazy
" 12	29·99	W.	...	109	70	61	60	65	Fine
" 13	29·89	N.	...	114	66	53	53	60	Cloudy
" 14	29·96	S.W.	...	109	69	55	54	59	Overcast
" 15	29·88	W.	...	125	77	57	56	63	Cloudy
" 16	29·66	S.	...	73	66	62	60	66	Overcast

During the week marked copies of the following newspapers have been received: *Straits Echo, Westminster Gazette, Hertfordshire Mercury, Windsor and Eton Express, South Wales Daily News, East Anglian Daily Times, Walsall Advertiser, Surrey Advertiser, Reading Mercury, Mining Journal, Local Government Chronicle, Yorkshire Herald, Daily News, Yorkshire Post, Daily Mail, Daily Chronicle, Standard, &c.*

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (20th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.).

TUESDAY (21st).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Royal Ear (3 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.).

WEDNESDAY (22nd).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.) Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M).

THURSDAY (23rd).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat, (9.30 A.M.), St. Mark's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

FRIDAY (24th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.).

SATURDAY (25th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

THURSDAY (23rd).—SOCIETY FOR THE STUDY OF DISEASE IN CHILDREN (25, Weymouth-street, W.).—5.30 P.M. Annual General Meeting.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (20th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. A. Whitfield: Clinique. (Skin.)

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. A. Saunders: The Examination of the Stomach and Gastric Contents.

TUESDAY (21st).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. S. Taylor: Clinique. (Medical.)

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury).—3.30 P.M. Dr. Collier: Hydrocephalus.

WEDNESDAY (22nd).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. J. Clarke: Clinique. (Surgical.)

THURSDAY (23rd).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. Hutchinson: Clinique. (Surgical.)

THE HOSPITAL FOR SICK CHILDREN (Gt. Ormond-street, W.C.).—4 P.M. Dr. Poynton: Demonstration of Selected Cases.

GUY'S HOSPITAL MEDICAL SCHOOL.—UNIVERSITY OF LONDON (Physiological Theatre).—4 P.M. Dr. E. W. Ainley Walker: Recent Work upon the Nature of Immunity. (Gordon Lecture.)

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

THE Index to Vol. I. of 1903, which was completed with the issue of June 27th, and the Title-page to the Volume, were given in THE LANCET of July 4th.

VOLUMES AND CASES.

VOLUMES for the first half of the year 1903 are now ready. Bound in cloth, gilt lettered, price 18*s.*, carriage extra.

Cases for binding the half-year's numbers are now ready. Cloth, gilt lettered, price 2*s.*, by post 2*s.* 3*d.*

To be obtained on application to the Manager, accompanied by remittance.

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WILL Subscribers please note that only those subscriptions which are sent direct to the Proprietors of THE LANCET at their Offices, 423, Strand, W.C., are dealt with by them? Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) do not reach THE LANCET Offices, and consequently inquiries concerning missing copies, &c., should be sent to the Agent to whom the subscription is paid, and *not* to THE LANCET Offices.

Subscribers, by sending their subscriptions direct to THE LANCET Offices, will ensure regularity in the despatch of their Journals and an earlier delivery than the majority of Agents are able to effect.

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One Year	£1 12 6	One Year	£1 14 8
Six Months	0 16 3	Six Months	0 17 4
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Subscriptions (which may commence at any time) are payable in advance. Cheques and Post Office Orders (crossed "London and Westminster Bank, Westminster Branch") should be made payable to the Manager, MR. CHARLES GOOD, THE LANCET Offices, 423, Strand, London, W.C.

SUBSCRIBERS ABROAD ARE PARTICULARLY REQUESTED TO NOTE THE RATES OF SUBSCRIPTIONS GIVEN ABOVE. It has come to the knowledge of the Manager that in some cases higher rates are being charged, on the plea that the heavy weight of THE LANCET necessitates additional postage above the ordinary rate allowed for in the terms of subscriptions. Any demand for increased rates, on this or on any other ground, should be resisted. The Proprietors of THE LANCET have for many years paid, and continue to pay, the whole of the heavy cost of postage on overweight foreign issues; and Agents are authorised to collect, and do so collect, from the Proprietors the cost of such extra postage.

The Manager will be pleased to forward copies direct from the Offices to places abroad at the above rates, whatever be the weight of any of the copies so supplied. Address—THE MANAGER, THE LANCET OFFICES, 423, STRAND, LONDON, ENGLAND.

Communications, Letters, &c., have been received from—

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